:LIENT:

OHM REMEDIATION SERVICES

POJECT:

MCAS EL TORO/18609/D.O. 70

_CH NO.:

9811064

METHOD: METHOD 3550A/8270B

MATRIX:

SOIL 1

12.2

DILTN FACTR: SAMPLE ID: CONTROL NO.:

LAB FILE ID:

18609-970

H064-04 RHS268

H064-04M

H064-04S

RHS269

RHS270

DATIME EXTRCTD: 08/17/9810:00 08/17/9810:00 08/17/9810:00 ATIME ANALYZD: 08/25/9800:21 08/25/9801:12 08/25/9802:04

% MOISTURE:

DATE COLLECTED: 08/14/98 DATE RECEIVED: 08/14/98

PREP. BATCH:

SVH015S

SVH015S

SVH015S

CALIB. REF:

RHS264

RHS264

RHS264

ACCESSION:

PARAMETER	SMPL RSLT (ug/kg)	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	RPD %	QC LIMIT	MAX RPD %
1,2,4-Trichlorobenzene	ND	3790	1980	52	3790	3000	79	41*	34-152	30
1,4-Dichlorobenzene	ND	3790	1820	48	379 0	2850	75	44*	25 - 135	30
2,4-Dinitrotoluene	ND	3790	2550	67	3790	3370	89	28	29-149	30
2-Chiorophenol	ND	5690	2840	50	569 0	4340	76	42*	31-135	, 30
4-Chloro-3-Methylphenol	ND	5690	2680	47	569 0	4090	72	42*	34 - 135	30
4-Nitrophenol	ND	5690	2620	46	5690	3860	68	38*	25-141	30
Acenaphthene	ND	3790	2020	53	3790	3110	82	43*	39-135	30
N-Nitroso-di-n-propyl.	ND	3790	1800	47	379 0	2920	77	48*	27-135	30
ntachlorophenol	ND	5690	2920	51	5690	3500	62	18	38-146	30
rienol	ND	5690	2650	46	5690	4090	72	43*	25 - 135	30
Pyrene	ND	3790	2810	74	3790	3370	89	18	37-146	30

........

•	SURROGATE PARAMETER	SPIKE AMT (ug/kg)	MS RSLT (ug/kg)	MS % REC	SPIKE AMT (ug/kg)	MSD RSLT (ug/kg)	MSD % REC	QC LIMIT
	2-Fluorophenol	5690	2480	43	5690	378 0	66	25-135
	Phenol-d5	5690	2630	46	5690	3920	69	25-135
	Nitrobenzene-d5	3790	1780	47	3790	2700	71	25 - 135
-	2-Fluorobiphenyl	3790	1960	52	3790	2970	78	34-125
,	2,4,6-Tribromophenol	5690	338 0	59	5690	4480	79	25-144
	Terphenyl-d14	3790	2920	77	3790	3350	88	32-136

METHOD 3550A/8270B SIM SEMI VOLATILE ORGANICS BY GC/MS

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70 DaTime Collcted: NA

DaTime Received: 08/17/98

DaTime Extrctd : 08/17/98 10:00 Batch No. : 98H064 DaTime Analyzd : 08/26/98 19:55 Sample ID : MBLK1S

Dilutn Factor : 1 Lab Cnt NO.: SVH015SB Lab File ID: RHB419 Matrix : SOIL Ext Btch ID: SVH015S % Moisture : NA Calib. Ref.: RHB416 Instrument ID : T-003

n-Nitroso-di-n-propylamine

Pentachlorophenol

RESULTS POL \mathtt{MDL} (ug/kg) (ug/kg) **PARAMETERS** (ug/kg) _ _ _ _ _ _ _ _ _ _ _ _ _____ _____ 33 6.75 NDBenzo(a)pyrene 33 6.39 bis(2-Chloroethyl)ether ND 33 9.32 -Dibenzo(a,h)anthracene ND 33 14.1 NDHexachlorobenzene Indeno(1,2,3-cd)pyrene ND33 6.5

ND

ND

33

33

4.22

8.67 ~

METHOD 3550A/8270B SIM SEMI VOLATILE ORGANICS BY GC/MS

DaTime Received: 08/27/98

Client : OHM REMEDIATION SERVICES DaTime Collcted: NA roject : MCAS EL TORO/18609/D.O. 70 DaTime Received: 08/Batch No. : 98H064 DaTime Extrctd : 08/ DaTime Extrctd : 08/27/98 09:30 DaTime Analyzd : 08/31/98 18:18 Sample ID : MBLK2S

~ _______

. Lab Cnt NO.: SVH024SB Dilutn Factor : 1 Lab File ID: RHB531 Matrix : SOIL Ext Btch ID: SVH024S % Moisture : NA Calib. Ref.: RHB530 Instrument ID : T-003

Pentachlorophenol

RESULTS PQL MDL _ PARAMETERS (ug/kg) (ug/kg) (ug/kg) -----_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ 33 6.75 Benzo(a)pyrene ND 6.39 bis(2-Chloroethyl)ether ND 33 - Dibenzo (a, h) anthracene ND33 9.32 ND 33 14.1 Hexachlorobenzene Indeno(1,2,3-cd)pyrene ND33 6.5 n-Nitroso-di-n-propylamine ND33 4.22

ND

33

8.67

METHOD 5030A/M8015 TOTAL PETROLEUM HYDROCARBONS BY PURGE & TRAP

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70

Date Collected: 08/14/98
DaTime Received: 08/14/98
Instrument ID: GCT039

Batch No. : 98H064 Matrix : SOIL

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	SURR (%)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK1S	VAH1039B	ND	92	1	NA	1	.088	08/14/9815:04	08/14/9815:04	EH14-4	EH14-2	VAH1039
LCS1S	VAH1039L	5.57	99	1	NA	1	.088	08/14/9815:38	08/14/9815:38	EH14-5	EH14-2	VAH1039
LCD1S	VAH1039C	5.54	97	1	NA	1	.088	08/14/9816:12	08/14/9816:12	EH14-6	EH14-2	VAH1039
18609-968	H064-02	ND	85	1	12.5	1.14	.101	08/15/9801:43	08/15/9801:43	EH14-23	EH14-17	VAH1039
18609-970	H064-04	ND	85	1	12.2	1.14	.1	08/15/9802:16	08/15/9802:16	EH14-24	EH14-17	VAH1039
18609-972	H064-06	ND	87	1	11.6	1.13	.0995	08/15/9802:50	08/15/9802:50	EH14-25	EH14-17	VAH1039
18609-974	H064-08	ND	82	1	13.0	1.15	.101	08/15/9803:24	08/15/9803:24	EH14-26	EH14-17	VAH1039
18609-976	H064-10	ND	82	1	7.3	1.08	.0949	08/15/9803:57	08/15/9803:57	EH14-27	EH14-17	VAH1039

RL : Reporting Limit

Client : OHM REMEDIATION SERVICES

Project : MCAS EL TORO/18609/D.O. 70

Date Collected: 08/14/98
DaTime Received: 08/14/98
Instrument ID: GCT015

SAMPLE ID	CONTROL NO	RESULTS (mg/kg)	RANGE H-C	SURR1 (%)	SURR2 (%)	DLF	MOIST	RL (mg/kg)	MDL (mg/kg)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK1S	DSH025SB	ND	N.A.	96	125	1	NA	10	6	08/15/9819:04	08/14/9817:00	NH10-206	NH10-203	DSH025S
LCS1S	DSH026SL	497	C10-C24	87	122	1	NA	10	6	08/16/9801:40	08/14/9817:00	NH10-218	NH10-216	DSH025S
LCD1S	DSH026SC	496	C10-C24	134	120	1	NA	10	6	08/16/9802:13	08/14/9817:00	NH10-219	NH10-216	DSH025\$
18609-968	н064-02	ND	N.A.	91	120	1	12.5	11.4	6.86	08/16/9803:20	08/14/9817:00	NH10-221	NH10-216	DSH025S
18609-970	H064-04	ND	N.A.	92	120	1	12.2	11.4	6.83	08/16/9803:53	08/14/9817:00	NH10-222	NH10-216	DSH025S
18609-972	H064-06	ND	N.A.	92	122	1	11.6	11.3	6.79	08/16/9804:27	08/14/9817:00	NH10-223	NH10-216	DSH025S
18609-974	H064-08	ND	N.A.	92	123	1	13.0	11.5	6.9	08/16/9805:00	08/14/9817:00	NH10-224	NH10-216	DSH025S
18609-976	н064-10	ND	N.A.	92	122	1	7.3	10.8	6.47	08/16/9805:34	08/14/9817:00	NH10-225	NH10-216	DSH025S
18609-976MS	H064-10M	518	C10-C24	123	122	1	7.3	10.8	6.47	08/16/9806:07	08/14/9817:00	NH10-226	NH10-216	DSH025S
18609-976MSD	H064-10S	538	C10-C24	121	122	1	7.3	10.8	6.47	08/16/9806:40	08/14/9817:00	NH10-227	NH10-216	DSH025S

QC LIMIT: (SOIL) 60-140 55-150 QC LIMIT: (WATER) 65-135 60-145

SURR1 : Bromobenzene
SURR2 : Hexacosane
RL : Reporting Limit
H-C RANGE: C7-C18 = JP-5
C6-C12 = Gas
C10-C24 = Diesel
C18-C34 = Motor Oil

: Value exceed the upper level of the initial calibration

D : Value from dilution

METHOD M8015 TOTAL PETROLEUM HYDROCARBONS BY EXTRACTION

Client : OHM REMEDIATION SERVICES
Project : MCAS EL TORO/18609/D.O. 70

Date Collected: 08/14/98
DaTime Received: 08/14/98
Instrument ID: GCT015

Batch No. : 98H064

SAMPLE ID	CONTROL NO	RESULTS (mg/L)	RANGE H-C	SURR1 (%)	SURR2 (%)	DLF	MOIST	RL (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH
MBLK1W	DSH024WB	ND	N.A.	82	125	1	NA	.1	0.04	08/17/9812:11	08/14/9817:00	NH17-6	NH17-3	DSH024W
LCS1W	DSH024WL	4.81	C6-C20	108	121	1	NA	.1	0.04	08/17/9812:44	08/14/9817:00	NH17-7	NH17-3	DSH024 W
LCD1W	DSH024WC	4.78	C6-C20	114	130	1	NA	.1	0.04	08/17/9813:17	08/14/9817:00	NH17-8	NH17-3	DSH024W
MBLK1S	TX005SB	ND	N.A.	80	128	1	NA	.1	0.04	08/17/9815:35	08/14/9817:00	NH17-12	NH17-3	DSH024W
18609-967	H064-01	1.91	c6-c20	107	126	1	NA	.1	0.04	08/17/9813:49	08/14/9817:00	NH17-9	NH17-3	DSH024W

QC LIMIT : (SOIL) 60-140 55-150 QC LIMIT : (WATER) 65-135 60-145

SURR1 : Bromobenzene
SURR2 : Hexacosane
RL : Reporting Limit
H-C RANGE: C7-C18 = JP-5

C6-C12 = Gas C10-C24 = Diesel C18-C34 = Motor Oil

E : Value exceed the upper level of the initial calibration

D : Value from dilution

METHOD 3550A/8081 PESTICIDES/PCBS

```
Client : OHM REMEDIATION SERVICES Date Collected: NA
 Project: MCAS EL TORO/18609/D.O. 70
Patch No.: 98H064
pmple ID: MBLK1S
Tab Samp ID: CPH023SB
Lab File ID: SH20007A
Ext Btch ID: CPH023S
Table Pof GU20003
                                                        Date Received: 08/17/98
Date Extracted: 08/17/98 11:00
Date Analyzed: 08/20/98 14:04
                                                        Date
                                                         Dilution Factor: 1
                                                         Matrix
                                                                      : SOIL
                                                         % Moisture
                                                                           : NA
 Calib. Ref.: SH20003A
                                                         Instrument ID : GCT008
 PQL
(ug/kg)
                                            RESULTS
                                                                                  MDT
PARAMETERS
                                            (ug/kg)
                                                                                (ug/kg)
 _ _ _ _ _ _ _ _ _ _
                                                                   _ _ _ _ _ _
 ALPHA-BHC
                                                                                .402 .34
                                            (ND) ND
 BETA-BHC
                                            (ND) ND
                                                                         15
DELTA-BHC
                                                                                .256 .173
                                            (ND)
                                                 ND
                                                                         15
                                                                                .364 .39
.222 .209
.239 .192
 GAMMA-BHC
             (LINDANE)
                                            (ND)
                                                 ND
                                                                         15
 ALPHA-CHLORDANE
                                                                         15
                                            (ND)
                                                 ND
 GAMMA-CHLORDANE
                                            (ND)
                                                                         15
                                                ND
-4,4'-DDD
                                            (ND)
                                                 ND
                                                                          3
                                                                                .294 .297
 4,4'-DDE
                                                                                      .74
                                            (ND)
                                                 ND
                                                                          3
                                                                                .413
 4,4'-DDT
                                                                                      .388
                                            (ND)
                                                                          3
                                                                                .602
                                                 ND
 ALDRIN
                                            (ND)
                                                 ND
                                                                         15
                                                                                .474 .424
-DIELDRIN
                                            (ND)
                                                 ND
                                                                          353
                                                                                .449
 ENDOSULFAN I
ENDOSULFAN II
ENDOSULFAN SULFATE
                                                                                .287
                                            (ND)
                                                 ND
                                                                        1.
                                                                                .236
                                            (ND)
                                                 ND
                                            (ND)
                                                 ND
                                                                          3
                                                                                      .345
                                                                                .326
 ENDRIN
                                                 ND
                                                                                .445 | .425
                                            (ND)
                                                                          3
ENDRIN ALDEHYDE
ENDRIN KETONE
                                                                                .226
                                                                                      .223
                                            (ND)
                                                 ND
                                            (ND)
                                                 ND
                                                                          3
                                                                                .199
 HEPTACHLOR
                                                                         2
2
15
                                           (ND)
                                                ND
                                                                                .394
                                                                                      .342
HEPTACHLOR EPOXIDE METHOXYCHLOR
                                            (ND)
                                                 ND
                                                                                .222
                                                                                      .196
                                                 ND
                                            (ND)
                                                                                      2.08
                                                                                 1.2
 TOXAPHENE
                                            (ND)
                                                 ND
                                                                        170
                                                                                      10.6
7.17
                                                                                11.8
  CB-1016
                                                ND
                                            (ND)
                                                                         33
                                                                                    9
  JB-1221
                                                                                     37
                                            (ND)
                                                ND
                                                                         66
PCB-1232
                                                                                    9 | 13.2
                                            (ND)
                                                IND
                                                                         33
                                                                                .000 31.8 38.8 7 6.02
 PCB-1242
                                            (ND)
                                                ND
                                                                         33
 PCB-1248
                                                ND
                                            (ND)
                                                                         66
 PCB-1254
                                                                                      6.02
                                            (ND)
                                                ND
                                                                         33
-PCB-1260
                                           (ND)
                                                ND
                                                                         33
                                                                                    9 8.92
 SURROGATE PARAMETERS
                                           % RECOVERY
                                                                    OC LIMIT
  _ _ _ _ _ _
                                            123 (119)
96 (95)
_DECACHLOROBIPHENYL
                                                                       25-143
 TETRACHLORO-M-XYLENE
                                                                      35-135
 PRL: Project Reporting Limit
Left of | is result from the first column. Right of | is result from the
 second column. ( ) Final result
* Outside of QC limit
    : An estimated value between PRL and MDL : Value exceed the upper level of the initial calibration
    : Found in the associated blank
    : Value from dilution analysis
```

REPORT

METHOD 3520B/8081 PESTICIDES/PCBS

==========			*========
Client :	OHM REMEDIATION SERVICES	Date Collected:	NA
Project :	MCAS EL TORO/18609/D.O. 70	Date Received:	08/14/98
Batch No. :	98H064	Date Extracted:	08/14/98 17:00
Sample ID:	MBLK1W	Date Analyzed:	08/15/98 15:08
Lab Samp ID:	CPH021WB	Dilution Factor:	1
Lab File ID:	SH15007A	Matrix :	WATER
Ext Btch ID:	CPH021W	% Moisture :	NA
Calib. Ref.:	SH15003A	Instrument ID :	GCT008
=========		=======================================	

	RESULTS	PQL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
ALPHA-BHC	(ND) ND	.03	.015 .02
BETA-BHC	(ND) ND	.03	.013 .021
DELTA-BHC	(ND) ND	.03	.018 .025
GAMMA-BHC (LINDANE)	(ND) ND	.06	.015 .032
ALPHA-CHLORDANE	(ND) ND	.03	.013 .012
GAMMA-CHLORDANE	(ND) ND	.03	.012 .011
4,41-000	(ND) ND	.5	.02 .047
4,4'-DDE	(ND) ND	.58	.022 .02
4,4'-DDT	(ND) ND	.1	.025 .027
ALDRIN	(ND) ND	.06	.031 .018
DIELDRIN	(ND) ND	.03	.022 .021
SULFAN I	(ND) ND	.03	.011 .012
ENDOSULFAN II	(ND) ND	.2	.016 .117
ENDOSULFAN SULFATE	(ND) ND	.1	.033 .02
ENDRIN	(ND) ND	.1	.021 .025
ENDRIN ALDEHYDE	(ND) ND	.1	.018 .023
ENDRIN KETONE	(ND) ND	.1	.024 .024
HEPTACHLOR	(ND) ND	.03	.019 .02
HEPTACHLOR EPOXIDE	(ND) ND	.03	.012 .013
METHOXYCHLOR	(ND) ND	.5	.12 .117
TOXAPHENE	(ND) ND	.5	.588 .572
PCB-1016	(ND) ND	1	.834 .603
PCB-1221	(ND) ND	2	1.12 .831
PCB-1232	(ND) ND	1	.388 .574
PCB-1242	(ND) ND	1	.465 .249
PCB-1248	(ND) ND	1	.432 .354
PCB-1254	(ND) ND	1	.299 .495
PCB-1260	(ND) ND	1	.387 .342
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
DECACHLOROBIPHENYL	133 (129)	34-133	

PRL: Project Reporting Limit

Left of \mid is result from the first column. Right of \mid is result from the

81 (67)

45-125

second column. () Final result

* Outside of QC limit

TETRACHLORO-M-XYLENE

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

B : Found in the associated blankD : Value from dilution analysis

REMARE REPORT

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

___ G NO.:

98H064

METHOD:

METHOD 3550A/8081

MATRIX:

SOIL

% MOISTURE:

NA

DILTN FACTR: SAMPLE ID:

CONTROL NO .:

MBLK1S

CPH023SB

CPH023SL

LAB FILE ID:

SH20007A

SH20008A

DATIME EXTRCTD: 08/17/9811:00 08/17/9811:00

DATE COLLECTED: NA

DATIME ANALYZD: 08/20/9814:04 08/20/9814:31

DATE RECEIVED: 08/17/98

PREP. BATCH:

CPH023S

CPH023S

CALIB. REF:

SH20003A

SH20003A

ACCESSION:

98H064

		BLNK RSLT	SPIKE AMT	BS RSLT	88	QC LIMIT
	PARAMETER	(ug/kg)	(ug/kg)	(ug/kg)	% REC	(%)
-						
	gamma-BHC (Lindane)	(ND) ND	16.7	11.8J (13J)	71 (78)	63-130
	4,4'-DDT	(ND) ND	33.3	32.8 (34.9)	98 (105)	25-153
سيبا	Aldrin	(ND) ND	16.7	12.1J (12.3J)	73 (74)	37-126
	Dieldrin	(ND) ND	33.3	26.8 (29.6)	80 (89)	32-142
	Endrin	(ND) ND	33.3	27.9 (30.2)	84 (91)	33-144
	Heptachlor	(ND) ND	16.7	11.5 (13.1)	69 (79)	35-138

SURROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	QC LIMIT
Decachlorobiphenyl	13.3	15.2 (15.3)	(114) 115	25 - 143
Tetrachloro-m-xylene	13.3	(10) 9.61	75 (72)	35 - 133

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

SDG NO.: METHOD:

98H064

METHOD 3520B/8081

MATRIX:

WATER

% MOISTURE:

NΑ

DILTN FACTR: SAMPLE ID:

CONTROL NO.:

MBLK1W

CPH021WB

CPH021WL

CPH021WC

LAB FILE ID: SH15007A

SH15008A

SH15009A

DATIME EXTRCTD: 08/14/9817:00 08/14/9817:00 08/14/9817:00

DATE COLLECTED: NA

PREP. BATCH:

DATIME ANALYZD: 08/15/9815:08 08/15/9815:39 08/15/9816:06 CPH021W

DATE RECEIVED: 08/14/98

CPH021W

CPH021W

CALIB. REF:

SH15003A

SH15003A

SH15003A

ACCESSION: 98H064

	BLNK RSLT	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	RPD	QC LIMIT	MAX RPD
PARAMETER	ug/L	ug/L	ug/L	% REC	ug/L	ug/L	% REC	%	%	%
gamma-BHC (Lindane)	(ND) ND	.5	.304 (.313)	61* (63*)	.5	.376 (.397)	75 (79)	21 24	73-125	30
4,41-DDT	(ND) ND	1	1.05 (1.08)	105 (108)	1	1.11 (1.16)	111 (116)	6 7	34-143	30
Aldrin	(ND) ND	.5	(.322) .317	(64) 63	.5	.392 (.401)	78 (80)	20 23	47-125	30
Dieldrin	(ND) ND	1	.83 (.893)	83 (89)	1	.911 (1)	91 (100)	9 11	42-132	30
Endrin	(ND) ND	1	.903 (.95)	90 (95)	1	.968 (1.04)	97 (104)	7 9	43-134	30
Heptachlor	(ND) ND	.5	.303 (.319)	61 (64)	.5	.37 (.399)	74 (80)	20 22	45-128	30

	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	QC LIMIT
SURROGATE PARAMETER	ug/L	ug/L	% REC	ug/L	ug/L	% REC	%
Decachlorobiphenyl	.2	(.257) .256	129 (128)	.2	(.267) .263	133 (132)	34-133
Tetrachloro-m-xylene	.2	(.125) .105	62 (52)	.2	(.126) .112	63 (56)	45-125

^{*:} Outside of QC limit

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

SDG NO.:

98H064

METHOD: METHOD 3520B/8081

% MOISTURE:

DATE COLLECTED: NA

DATE RECEIVED: 08/14/98

MATRIX: DILTN FACTR: WATER 1

NA

CONTROL NO.:

LAB FILE ID:

SAMPLE ID:

DATIME EXTRCTD:

MBLK1W

CPH021WB

CPH022WL

CPH022WC

SH15010A

SH15011A

SH15007A 08/14/9817:00 08/14/9817:00 08/14/9817:00

DATIME ANALYZD: 08/15/9815:08 08/15/9816:32 08/15/9816:59

PREP. BATCH:

CPH021W

CPH021W

CPH021W

CALIB. REF:

SH15003A

SH15003A

SH15003A

ACCESSION: 98H064

	BLNK RSLT	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	RPD	QC LIMIT	MAX RPD
PARAMETER	ug/L	ug/L	ug/L	% REC	ug/L	ug/L	% REC	%	%	%
PCB-1260	(ND) ND	5	(5.04) 4.99	(101) 100	5	(4.89) 4.79	(98) 96	3 4	29-131	30

	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	QC LIMIT
SURROGATE PARAMETER	ug/L	ug/L	% REC	ug/L	ug/L	% REC	%

Decachlorobiphenyl	.2	(.33) .304	165* (152*)	.2	(.326) .3	163* (150*)	34 - 133
Tetrachloro-m-xylene	.2	(.19) .174	95 (87)	.2	(.131) .115	65 (58)	45 - 125

^{*:} Outside of QC limit

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

SDG NO.:

98H064

METHOD: METHOD 3550A/8081

MATRIX:

SOIL

% MOISTURE:

12.5

DILTN FACTR: SAMPLE ID:

1

18609-968

H064-02S

1

CONTROL NO.: LAB FILE ID: H064-02 SH20010A H064-02M SH20011A

SH20012A

DATIME EXTRCTD: 08/17/9811:00 08/17/9811:00 08/17/9811:00

DATE COLLECTED: 08/14/98 DATE RECEIVED: 08/14/98

DATIME ANALYZD: 08/20/9815:24 08/20/9815:51 08/20/9816:17

CPH023S

PREP. BATCH: **CPH023S**

CPH023S

CALIB. REF:

SH20003A

SH20003A

SH20003A

ACCESSION:

98H064

PARAMETER	SMPL RSLT ug/kg	SPIKE AMT ug/kg	MS RSLT ug/kg	MS % REC	SPIKE AMT ug/kg	MSD RSLT ug/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
gamma-BHC (Lindane)	(ND) ND	19.1	144 (15.44)	73 (81)	19.1	13.81 (14.81)	72 (78)	1 4	63-130	50
4,4'-DDT	(1.61J) 1.52J	38.1	37.4 (42.7)	94 (108)	38.1	38.2 (43.5)	96 (110)	2 2	25 - 153	50
Aldrin	(ND) ND	19.1	17.6 (18.9)	92 (99)	19.1	17.4 (19.1)	91 (100)	1 1	37-126	50
Dieldrin	(ND) ND	38.1	(10.7) 9.71	(28*) 25*	38.1	(6.55) 5.44	(17*) 14*	48 56*	32-142	50
Endrin	(ND) ND	38.1	(13.2) 12.3	(35) 32*	38.1	(9.02) 7.86	(24*) 21*	38 44	33-144	50
Heptachlor	(ND) ND	19.1	15.6 (18.9)	82 (99)	19.1	15.5 (18.6)	81 (98)	1 2	35 - 138	50

SURROGATE PARAMETER	SPIKE AMT ug/kg	MS RSLT ug/kg	MS % REC	SPIKE AMT ug/kg	MSD RSLT ug/kg	MSD % REC	QC LIMIT %
Decachlorobiphenyl	15.2	(17.5) 17	115 (112)		(17.8) 17.2	117 (113)	25 - 143
Tetrachloro-m-xylene	15.2	12.4 (13)	(81) 85		(11.3) 11.1	74 (73)	35 - 133

^{*:} Outside of QC limit

METHOD 3010A/6010A TAL METALS BY ICP

========		######################################
ient	· OHM REMEDIATION SERVICES	Date Collected: NA

ient	: OHM REMEDIATION SERVICES	Date Collected: NA
oject	: MCAS EL TORO/18609/D.O. 70	Date Received: 08/17/98
	000044	

NO. : 98H064 Date Extracted: 08/17/98 16:15
Le ID: MBLK1W Date Analyzed: 08/18/98 16:18
b Samp ID: IPH022WB Dilution Factor: 1

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
uminum	ND	500	25.6
timony	ND	500	39.8
Barium	ND	100	1.41
Beryllium	ND	10	.12
dmium	ND	5	2.06
lcium	ND	1000	9.61
ে:iromium	ND	50	4.77
Cobalt	ND	50	6.64
pper	ND	50	6.47
on	ND	50	4.96
magnesium	ND	1000	28.9
Manganese	ND	20	.64
15-l ybdenum	ND	100	9.37
ckel	ND	150	3.93
tassium	ND	5000	2960
Silver	ND	50	4.69
Sndium	ND	1000	38.2
nadium	ND	100	4.7
nc	ND	20	2.47

RL: Reporting Limit

METHOD 3010A/6010A METALS BY TRACE-ICP

Client : OHM REMEDIATION SERVICES Project : MCAS EL TORO/18609/D.O. 70 SDG NO. : 98H064 Sample ID: MBLK1W Lab Samp ID: IPH022WB Lab File ID: I31H042016 Ext Btch ID: IPH022W	Date Collected: NA Date Received: NA Date Extracted: 08/17/98 16:15 Date Analyzed: 08/29/98 20:35 Dilution Factor: 1 Matrix : WATER % Moisture : NA
Calib. Ref.: I31H042014	Instrument ID : EMAXTI31

PARAMETERS	RESULTS	RL	MDL
	(ug/L)	(ug/L)	(ug/L)
Arsenic Lead Selenium Thallium	ND ND ND ND ND	5 5 5 50	4.37 1.42 4.21 3.31

RL: Reporting Limit

METHOD 3050A/6010A TAL METALS BY ICP

=======	====	=======================================	=====	========	=======	:=====
Client	:	OHM REMEDIATION SERVICES	Date	Collected:	NA	
roject	:	MCAS EL TORO/18609/D.O. 70	Date	Received:	08/18/98	
. TO NO.	:	98H064	Date	Extracted:	08/18/98	11:45
le Samp	ID:	MBLK1S	Date	Analyzed:	08/19/98	80:20
ab Samp	ID:	IPH027SB	Dilut	ion Factor:	1	
		107H025034	Matri:	x :	SOIL	
xt Btch	ID:	IPH027S	% Mois	sture :	NA	
Calib. Re	ef.:	107H025030	Instr	ument ID :	FMAXTIN7	

	RESULTS	RL	MDL
PARAMETERS	(mg/kg)	(mg/kg)	(mg/kg)
luminum	ND	50	6.24
ntimony	ND	10	3.58
**sarium	ND	1	.13
Beryllium	ND	.2	.02
^admium	ND	2	.07
alcium	ND	100	1.99
∽ահromium	ND	1	.6
Cobalt	ND "	2	.61
Copper	ND	1	.74
ron	ND	5	.72
agnesium	ND	100	5.26
Manganese	ND	2	.12
Molybdenum	ND	5	.65
ickel	ND	2	.46
otassium	ND	500	194
Šilver	ND	2	1.41
Sodium	ND	100	6.39
anadium	ND	1	.83
.inc	ND	2	.26

RL: Reporting Limit

METHOD 3050A/6010A METALS BY TRACE-ICP

Client : OHM REMEDIATION SERVICES Date Collected: NA Received: NA Date

Project : MCAS EL TORO/18609/D.O. 70 SDG NO. : 98H064 Sample ID: MBLK1S Lab Samp ID: IPH027SB Lab File ID: I31H042020 Ext Btch ID: IPH027S Calib. Ref : T31H042014 Date Extracted: 08/18/98 11:45 Date Analyzed: 08/29/98 21:05 Dilution Factor: 1 Matrix SOIL

: NA % Moisture Calib. Ref.: I31H042014 Instrument ID : EMAXTI31

RESULTS MDL (mg/kg) **PARAMETERS** (mg/kg)(mg/kg)Arsenic ND 1 .513 Lead ND .264 Selenium .453 .466 ND Thallium ND

RL: Reporting Limit

CLIENT: ¿OJECT: OHM REMEDIATION SERVICES MCAS EL TORO/18609/D.O. 70

)G NO.:

98H064

HOD:

METHOD 3050A/6010A

ATRIX: JILTN FACTR: SOIL

% MOISTURE:

NA

SAMPLE ID:

MBLK1S

IPH027SB IPH027SL

IPH027SC

:.ON JOSTNC AB FILE ID:

I07H025034

I07H025035

107H025036

ATIME EXTRCTD: 08/18/9811:45 08/18/9811:45 08/18/9811:45

DATE COLLECTED: NA DATE RECEIVED:

DATIME ANALYZD: 08/19/9802:08 08/19/9802:12 08/19/9802:16

IPH027S

IPH027S

IPH027S

08/18/98

TREP. BATCH: ALIB. REF:

107H025030

I07H025030 107H025030

ARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT	MAX RPD %
Aluminum	ND	1000	917	92	1000	898	90	. 2	80-120	20
ntimony	ND	500	441	88	500	431	86	2	80-120	20
arium	ND	100	93.8	94	100	92.3	92	2	80-120	20
Beryllium	ND	100	93.4	93	100	91.3	91	2	80-120	20
Cadmium	ND	100	90.8	91	100	89.1	89	2	80-120	20
alcium	ND	5000	4620	92	5000	4530	91	2	80-120	20
aromium	ND	100	94.3	94	100	91.5	92	3	80-120	20
~c obal t	ND	100	95.3	95	100	92.2	92	3	80-120	20
Copper	ND	100	92.2	92	100	9 0	90	2	80-120	20
ron	ND	1000	934	93	1000	913	91	2	80-120	20
agnesium	ND	5000	4580	92	5000	4470	89	3	80-120	20
-anganese	ND	100	93.2	93	100	91.1	91	2	80-120	20
Molybdenum	ND	100	97.8	98	100	96.4	96	1	80-120	20
Nickel	ND	100	91.7	92	100	91.1	91	1	80-120	20
assium	ND	5000	4550	91	5000	4240	85	7	80-120	20
(ver	ND	100	93.1	93	100	90.6	91	3	80-120	20
Sodium	ND	5000	4560	91	5000	4520	90	1	80-120	20
Vanadium	ND	100	92.9	93	100	90.5	9 0	3	80-120	20
.inc	ND	100	91.5	92	100	90.1	90	2	80-120	20

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/0.0. 70

SDG THO.:

DILTN FACTR:

LAB FILE ID:

SAMPLE ID:

98H064

METHOD 3050A/6010A METHOD:

MATRIX:

SOIL

1

MBLK1S CONTROL NO.:

IPH027SB

131H042020

IPH027SL

131H042021

IPH027SC 131H042022

1

DATIME EXTRCTD: 08/18/9811:45 08/18/9811:45 08/18/9811:45 DATIME ANALYZD: 08/29/9821:05 08/29/9821:09

08/29/9821:14

DATE COLLECTED: NA

% MOISTURE:

PREP. BATCH:

IPH027S

IPH027S

IPH027s

DATE RECEIVED:

CALIB. REF:

131H042014

131H042014

I31H042014

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT	MAX RPD %
Arsenic	ND	100	89.2	89	100	88.2	88	1	80-120	20
Lead	ND	100	97.9	98	100	97.3	97	1	80-120	20
Selenium	ND	100	85.6	86	100	86.3	86	1	80-120	20
Thallium	ND	100	96	96	100	95	95	1	80-120	20

CLIENT:

OHM REMEDIATION SERVICES MCAS EL TORO/18609/D.O. 70

OJECT: G NO.:

98H064

DD:

METHOD 3010A/6010A

TRIX: DILIN FACTR:

B FILE ID:

TIME EXTRCTD:

DATIME ANALYZO:

WATER

1

% MOISTURE:

NA

SAMPLE ID: "NTROL NO.:

MBLK1W

IPH022WB

IPH022WL I07H024014

IPH022WC

I07H024013

I07H024015

1

08/17/9816:15 08/17/9816:15 08/18/9816:22

08/17/9816:15 08/18/9816:26 DATE COLLECTED: NA DATE RECEIVED:

DOEP. BATCH: LIB. REF:

08/18/9816:18 IPH022W I07H024011

IPH022W I07H024011 IPH022W I07H024011 08/17/98

ACCESSION:

BLNK RSLT SPIKE AMT BS RSLT BS SPIKE AMT BSD RSLT BSD RPD QC LIMIT MAX RPD ug/L % REC ug/L % REC % % ug/L ug/L ug/L % RAMETER 80-120 10000 9940 99 10000 10500 105 5 20 Aluminum ND ND 5000 4900 98 5000 5150 103 5 80-120 20 it imony 1000 981 98 1000 1040 104 80-120 20 ırium ND 985 98 1000 80-120 1000 1030 103 20 Beryllium ND 980 98 1000 1000 1030 103 5 80-120 20 ND Cadmium ND 50000 49500 99 50000 51800 104 4 80-120 20 alcium 1000 1010 101 1000 1060 5 80-120 20 iromium ND 106 1020 1000 1070 ND 1000 102 107 80-120 20 Cobalt ND 1000 982 98 1000 1040 104 5 80-120 20 Copper 99 10000 9950 10000 10400 5 ND 104 80-120 20 on 50000 48500 97 50000 50800 102 80-120 20 ND agnesium . 998 100 1000 5 ---inganese ND 1000 1050 105 80-120 20 1000 1040 104 1000 1130 8 80-120 20 ND 113 Molybdenum Nickel ND 1000 987 99 1000 1030 103 80-120 20 95 80-120 50000 47300 50000 51300 8 20 ND 103 nssium 98 ND 1000 982 1000 1030 103 5 80-120 20 _ c∕ver 50000 49800 100 50000 52200 104 80-120 20 Sodium ND Vanadium ND 1000 978 98 1000 1030 103 6 80-120 20 1000 1010 101 1000 1060 80-120 20 inc ND 106 5

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

SDG NO.:

98H064

METHOD: METHOD 3010A/6010A

MATRIX: DILTN FACTR: SAMPLE ID:

DATIME ANALYZD:

WATER

MBLK1W

IPH022WB

CONTROL NO .: LAB FILE ID: I31H042016 DATIME EXTRCTD:

IPH022WL I31H042017

131H042018 08/29/9820:35 08/29/9820:39 08/29/9820:43

IPH022W PREP. BATCH: CALIB. REF: 131H042014 IPH022W 131H042014 IPH022W I31H042014

IPH022WC

DATE COLLECTED:

% MOISTURE:

NA DATE RECEIVED: NA

NA

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT	MAX RPD %
Arsenic Lead Selenium Thallium	ND ND ND	1000 1000 1000 1000	958 1040 959 1040	96 104 96 104	1000 1000 1000 1000	1050 1130 1060 1130	105 113 106 113	9 9 10 9	80-120 80-120 80-120 80-120	20 20 20 20

CLIENT:

OHM REMEDIATION SERVICES

ROJECT:

MCAS EL TORO/18609/D.O. 70

)G NO.:

98н064

'OD:

METHOD 3050A/6010A

ATRIX: DILTH FACTR: SOIL

11.6

SAMPLE ID: ONTROL NO.: 18609-972

I31H042029

H064-06

H064-06M H064-06S

I31H042032

AB FILE ID: THATIME EXTRCTD: 08/18/9811:45 08/18/9811:45 08/18/9811:45 DATIME ANALYZD:

08/29/9821:58

I31H042031

08/29/9822:10

08/29/9822:14

DATE COLLECTED: 08/14/98 DATE RECEIVED:

% MOISTURE:

08/14/98

TREP. BATCH:

IPH027S

IPH027S I31H042024

ALIB. REF:

131H042024

IPH027S I31H042024

ARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	2.41	113	98.3	85	113	101	87	3	80-120	20
ead	2.94	113	108	93	113	111	96	3	80-120	20
elenium	ND	113	90.5	80	113	92.8	82	3	80-120	20
Thallium	ND	113	100	88	113	102	90	2	80-120	20

CLIENT:

OHM REMEDIATION SERVICES

PROJECT: METHOD:

MCAS EL TORO/18609/D.O. 70

SDG NO.:

98H064

METHOD 3050A/6010A

MATRIX:

SOIL

% MOISTURE:

11.6

DILTN FACTR: SAMPLE ID: CONTROL NO.:

1

18609-972

H064-06 107H025044

08/18/9811:45

H064-06M 107H025040

1

H064-065

1

107H025041

08/18/9811:45 08/18/9811:45 08/19/9802:46 08/19/9802:50

DATE COLLECTED: 08/14/98

DATIME ANALYZD: 08/19/9803:15 PREP. BATCH: CALIB. REF:

LAB FILE ID: DATIME EXTRCTD:

> 1PH027S I07H025042

IPH027S 107H025030 1PH027S 107H025030 DATE RECEIVED:

08/14/98

ACCESSION:

PARAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD 0	C LIMIT	MAX RPD %
Aluminum	8410	1130	10900	219F	1130	12800	384F	55*	80-120	20
Antimony	ND	566	262	46G	566	259	46G	1	80-120	20
Barium	112	113	228	102	113	274	143G	33*	80-120	20
Beryllium	.332	113	101	89	113	103	91	2	80-120	20
Cadmium	ND	113	99.5	88	113	101	89	2	80-120	20
Calcium	7860	5660	12100	75 G	5660	12400	80	8	80-120	20
Chromium	8.36	113	110	90	113	113	92	3	80-120	20
Cobalt	3.77	113	106	90	113	108	92	2	80-120	20
Copper	15.7	113	113	86	113	114	87	1	8 0-120	20
Iron	11100	1130	12300	102	1130	14000	261F	87*	80-120	20
Magnesium	4760	5660	9880	90	5660	10600	103	13	80-120	20
Manganese	206	113	289	73G	113	313	95	26*	80-120	20
Molybdenum	ND	113	103	91	113	106	94	3	80-120	20
Nickel	5.19	113	105	88	113	107	90	2	80-120	20
Potassium	2900	5660	8240	94	5660	88 20	105	10	80-120	20
Silver	ND	113	102	90	113	103	91	1	80-120	20
Sodium	ND	5660	5220	92	5660	5280	93	1	80-120	20
Vanadium	25.5	113	126	89	113	131	94	5	80-120	20
Zinc	39.1	113	135	85	113	142	91	7	80-120	20

The QC limit does not apply since analyte concentration was more than 4 times

the spike concentration.

Out of QC limit probably due to matrix interference. G

EMAX QUALITY CONTROL DATA SERIAL DILUTION ANALYSIS

CLIENT:

OHM REMEDIATION SERVICES

OJECT:

MCAS EL TORO/18609/D.O. 70

TCH NO .:

SAMPLE ID:

98H064

METHOD 3050A/6010A DD:

TRIX: DILUTION FACTOR: 1

SOIL

18609-972 18609-972DL

AX SAMP ID: B FILE ID:

H064-06 107H025044 H064-06T 107H025045

TATE EXTRACTED: 08/18/9811:45 08/18/9811:45 08/19/9803:15 08/19/9803:22 DATE COLLECTED: 08/14/98 DATE RECEIVED: 08/14/98

11.6

% MOISTURE:

DATE ANALYZED: TREP. BATCH:

IPH027S

IPH027S

I07H025042 ILIB. REF:

107H025042

ACCESSION:

LDAMETED	SMPL RSLT	SERIAL DIL RSLT	DIF RSLT	QC LIMIT
\RAMETER	(mg/kg)	(mg/kg)	%	(%)
Aluminum	8410	9110	8	10
ntimony	ND	ND	0	10
arium	112	119	6	10
Beryllium	.332	ND	NA	10
Cadmium	ND	ND	0	10
alcium	7860	8770	11H	10
aromium	8.36	8.73	4	10
Cobalt	3.77	ND	NA	10
Copper	15.7	14.1	10R	10
ron	11100	12300	11H	10
agnesium	4760	5230	10	10
ਜ਼ਿਕnganese	206	226	10	10
Molybdenum	ND	ND	0	10
"ickel	5.19	ND	NA	10
assium	2900	ND	NA	10
—ıĭĺver	ND	ND	0	10
Sodium	ND	ND	0	10
Vanadium	25.5	25	2	10
linc	39.1	45.2	16H	10

Out of QC limit, matrix effect was suspected.

The QC limit does not apply since analyte concentration was

less than 50X MDL.

EMAX QUALITY CONTROL DATA SERIAL DILUTION ANALYSIS

CLIENT:

MATRIX:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

BATCH NO.:

98H064

METHOD 3050A/6010A METHOD:

DILUTION FACTOR: 1

SOIL

% MOISTURE:

11.6

08/14/98

DATE COLLECTED: 08/14/98

DATE RECEIVED:

SAMPLE ID:

18609-972

18609-972DL

EMAX SAMP ID:

H064-06

H064-06T

LAB FILE ID:

I31H042029

I31H042030

DATE EXTRACTED: 08/18/9811:45 08/18/9811:45 DATE ANALYZED:

08/29/9821:58 08/29/9822:06

IPH027S

IPH027S

PREP. BATCH:

CALIB. REF:

131H042024

I31H042024

5

ACCESSION:

	SMPL RSLT	SERIAL DIL RSLT	DIF RSLT	QC LIMIT
PARAMETER	(mg/kg)	(mg/kg)	%	(%)
Arsenic	2.41	3.18	32 R	10
Lead	2.94	14.7	400R	10
Selenium	ND	ND	0	10
Thallium	ND	ND	0	10

The QC limit does not apply since analyte concentration was

less than 50% MDL.

(DENT:

OHM REMEDIATION SERVICES

Pr CT:

MCAS EL TORO/18609/D.O. 70

: D

METHOD 7470A

:XIR

101STURE:

WATER NA

FATCH NO.:

98H064

LCS1W/LCD1W : IPLE ID: TROL NO.: HGH020WL/C

DATE RECEIVED: 08/19/98

DATE EXTRACTED: 08/19/98 10:00

DATE ANALYZED: 08/19/98 17:11/17:14

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT %
l rcury	ND	5.00	5.09	102	5.00	5.05	101	1	77-120	15

CLIENT:

OHM REMEDIATION SERVICES MCAS EL TORO/18609/D.O. 70

PROJECT: METHOD:

METHOD 7471A

MATRIX:

SOIL

% MOISTURE:

BATCH NO.:

98H064

SAMPLE ID: CONTROL NO .: LCS1S/LCD1S HGH018SL/C

DATE RECEIVED: 08/18/98

DATE EXTRACTED: 08/18/98 10:00

DATE ANALYZED: 08/18/98 18:26/18:29

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT
Mercury	ND.	.735	.773	105	.735	.768	104	1	77-120	2.5

:LIENT:

OHM REMEDIATION SERVICES

JECT:

MCAS EL TORO/18609/D.O. 70 METHOD 7471A

ਜਿਵਾਂ HOD:

MATRIX:

& MOISTURE:

SOIL 12.5

-

3ATCH NO.:

98H064

SAMPLE ID: -CONTROL NO.: 18609-968 H064-02M/S DATE RECEIVED: 08/14/98
DATE EXTRACTED: 08/18/98 10:00

DATE ANALYZED: 08/18/98 18:35/18:38

News	SMPL RSLT	SPIKE AMT	MS RSLT	MS	SPIKE AMT	MSD RSLT	MSD	RPD	QC LIMIT	RPD LIMIT
PARAMETER	(mg/kg)	(mg/kg)	(mg/kg)	% REC	(mg/kg)	(mg/kg)	% REC	%	%	%
Mercury	ND	.84	.824	98	.84	.797	95	3	77-120	25

CLIËNT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

METHOD: MATRIX:

METHOD 9010A

% MOISTURE:

WATER NA

BATCH NO.: SAMPLE ID: CONTROL NO.: 98H064

LCS1W/LCD1W CNHOO8WL/C

08/17/98 DATE RECEIVED:

DATE EXTRACTED: 08/17/98 10:00

DATE ANALYZED: 08/18/98 12:19/12:20

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	SPIKE AMT (mg/L)	BSD RSLT (mg/L)	BSD % REC	RPD %	QC LIMIT %	RPD LIMIT
Cyanide	ND	.10	.098	98	.10	.096	96	2	80-120	20

ΙΕΝŧΙ:

OHM REMEDIATION SERVICES

T'ECT: MCAS EL TORO/18609/D.O. 70

MATRIX:

METHOD 9010A

MOISTURE:

SOIL 7.3

RATCH NO .:

98H064

18609-976

DATE RECEIVED: 08/14/98

MPLE ID: H064-10M __NTROL NO.:

DATE EXTRACTED: 08/17/98 10:00 DATE ANALYZED: 08/18/98 12:45

ACCESSION:

SMPL RSLT SPIKE AMT MS RSLT QC LIMIT MS PARAMETER (mg/kg) (mg/kg) % REC (%) 5**.3**9 5.59 104 75-125 anide ND

EMAX QUALITY CONTROL DATA DUPLICATE ANALYSIS

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

METHOD:

METHOD 9010A

MATRIX:

SOIL

% MOISTURE: 7.3

BATCH NO.: SAMPLE ID: 98H064

DATE RECEIVED: 08/14/98

CONTROL NO.:

18609-976 H064-10D

DATE EXTRACTED: 08/17/98 10:00

DATE ANALYZED: 08/18/98 12:44

ACCESSION:

SAMPLE DUP. SAMPLE RPD (%) PARAMETER (mg/kg) (mg/kg) ------ND

RPD LIMIT (%)

Cyanide

ND 0 20

IENT:

OHM REMEDIATION SERVICES

MCAS EL TORO/18609/D.O. 70 CT:

: Dنسيالا

METHOD 9010A

"TRIX:

MOISTURE:

SOIL

BATCH NO.:

9811064

DATE RECEIVED: 08/17/98

MPLE ID: _NTROL NO.: LCS1S CNHO09SL DATE EXTRACTED: 08/17/98 10:00

104

DATE ANALYZED: 08/18/98 12:36

75 - 125

ACCESSION:

BLNK RSLT SPIKE AMT LCS RSLT LCS QC LIMIT (mg/kg) (mg/kg) (mg/kg) % REC (%) PARAMETER -----

ND

5.00 5.18

anide

EMAX QUALITY CONTROL DATA DUPLICATE ANALYSIS

CLIENT: PROJECT: OHM REMEDIATION SERVICES

MCAS EL TORO/18609/D.O. 70

METHOD:

METHOD 150.1

MATRIX:

WATER

NΑ % MOISTURE:

BATCH NO.: SAMPLE ID: CONTROL NO .: 98H064

18609-967 H064-01D

DATE RECEIVED: 08/14/98

DATE EXTRACTED: NA

DATE ANALYZED: 08/17/98 10:40

	SAMPLE	DUP. SAMPLE	RPD	RPD LIMIT
PARAMETER	(pH unit)	(pH unit)	(%)	(%)
рH	5.56	5.59	1	20

EMAX QUALITY CONTROL DATA DUPLICATE ANALYSIS

.IENT:

OHM REMEDIATION SERVICES

. MJECT:

MCAS EL TORO/18609/D.O. 70

CC:

METHOD 9040A

MATRIX:

MOISTURE:

SOIL NA

BATCH NO.: MPLE ID:

ONTROL NO.:

98H064

18609-976

DATE RECEIVED: 08/14/98
DATE EXTRACTED: NA

H064-10D

DATE ANALYZED: 08/17/98 11:15

	SAMPLE	DUP. SAMPLE	RPD	RPD LIMIT
TARAMETER	(pH unit)	(pH unit)	(%)	(%)

~1	8.57	8.59	0	20

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

BATCH NO.:

98H040

METHOD M8015 METHOD:

MATRIX:

SOIL

% MOISTURE:

NA

DILUTION FACTOR: 1 SAMPLE ID:

LAB SAMP ID:

LAB FILE ID:

MBLK1S

DSH014SB NH10-54

DSH015SL

DSH015SC

NH10-76

NH10-77

DATE EXTRACTED: 08/11/9818:30 08/11/9818:30 08/11/9818:30 DATE COLLECTED: NA

DATE ANALYZED: 08/10/9821:50 08/11/9809:51 08/11/9810:23 DATE RECEIVED: 08/11/98

PREP. BATCH:

DSH014S

DSH014S

DSH014S

CALIB. REF:

NH10-49

NH10-75

NH10-75

ACCESSION:

PARAMETER

Diesel

BLNK RSLT SPIKE AMT BS RSLT BS SPIKE AMT BSD RSLT (mg/kg) (mg/kg) (mg/kg) % REC (mg/kg) (mg/kg) % REC (%) (%) (%)

ND

467

93

500

492

5

98

BSD

RPD QC LIMIT MAX RPD

51-153

50

SPIKE AMT BSD RSLT SPIKE AMT BS RSLT BS BSD QC LIMIT % REC (mg/kg) (mg/kg) % REC SURROGATE PARAMETER (mg/kg) (mg/kg) 108 100 107 107 60-140 100 108 Bromobenzene 130 100 130 130 55-150 100 130 Hexacosane

CLIENT: ROJECT: OHM REMEDIATION SERVICES

MCAS EL TORO/18609/D.O. 70

ATCH NO.:

98H040

.OD :

METHOD M8015

₩ATRIX:

WATER

DILTN FACTR:

1

AMPLE ID: MBLK1W

ONTROL NO.:

DSH016WB TAB FILE ID:

NH10-155

DSH016WL

NH10-167

DSH016WC

NH10-168

DATIME EXTRCTD: 08/12/9810:00 08/12/9810:00 08/12/9810:00 DATE COLLECTED: NA

ATIME ANALYZD: 08/14/9814:51 08/14/9821:21 08/14/9821:54 DATE RECEIVED: 08/12/98

DSH016W

DSH016W

REP. BATCH: CALIB. REF:

DSH016W

NH10-148

NH10-159

NH10-159

CCESSION:

PARAMETER

viesel

BLNK RSLT SPIKE AMT BS RSLT mg/L

ND

mg/L

5 4.16

83

5

% REC mg/L

BS SPIKE AMT BSD RSLT

% MOISTURE:

4.52

mg/L

NA

90

BSD

% REC % % %

7 61-143

RPD QC LIMIT MAX RPD

SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	QC LIMIT
mg/L	mg/L	% REC	mg/L	mg/L	% REC	%
1	.848	8 5	1	.939	94	65-135
1	1.25	125	1	1.26	126	60-145
	SPIKE AMT mg/L 1	mg/L mg/L 1 .848	mg/L mg/L % REC	mg/L mg/L % REC mg/L 1 .848 85 1	mg/L mg/L % REC mg/L mg/L 1 .848 85 1 .939	mg/L mg/L % REC mg/L mg/L % REC

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS TUSTIN/19784/D.O. 103

BATCH NO.:

98H040

METHOD: METHOD M8015

MATRIX:

SOIL

% MOISTURE: 8.0

DILTN FACTR: SAMPLE ID: CONTROL NO .:

LAB FILE ID:

1

19784-449

H038-03 NH10-79

H038-03M NH10-80

H038-03S

NH10-81

DATIME EXTRCTD: 08/11/9818:30 08/11/9818:30 08/11/9818:30

DATIME ANALYZD: 08/12/9811:29 08/12/9812:01 08/12/9812:35

DATE COLLECTED: 08/11/98

DATE RECEIVED:

08/11/98

PREP. BATCH:

DSH014S

DSH014S

DSH014S

CALIB. REF:

NH10-75

NH10-75

NH10-75

ACCESSION:

	SMPL RSLT	SPIKE AMT	MS RSLT	MS	SPIKE AMT	MSD RSLT	MSD	RPD	QC LIMIT	MAX RPD
PARAMETER	mg/kg	mg/kg	mg/kg	% REC	mg/kg	mg/kg	% REC	%	%	%
					•••••					
Diesel	ND	543	540	99	543	528	97	2	51-153	50

SURROGATE PARAMETER	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	QC LIMIT %
Bromobenzene	109	113	104	109	119	110	60-140
Hexacosane	109	138	127	109	143	131	55- 15 0

METHOD 5030A/8260A VOLATILE ORGANICS BY GC/MS

Client : OHM REMEDIATION SERVICES DaTime Collcted: NA : MCAS EL TORO/18609/D.O. 70 DaTime Received: 08/12/98
DaTime Extrctd: 08/12/98 14:20
DaTime Analyzd: 08/12/98 14:20
Dilutn Factor: 1 project : 98H040 : MBLK1W tch No. Sample ID Lab Cnt No.: VOH1201B Lab File ID: RHV181 Ext Btch ID: VOH1201B WATER Matrix : NA % Moisture Calib. Ref.: RHV177 Instrument ID : T-001

PARAMETERS	RESULTS (ug/L)	PRL (ug/L)	MDL (ug/L)
,			
_1,1,1-Trichloroethane	ND ND	5 \$	1.13 .488
1,1,2,2-Tetrachloroethane	ND	5 5 5 5 5	.515
1,1,2-Trichloroethane	ND ND	5	1.21
1,1-Dichloroethane	ND ND	5	1.96
_l,1-Dichloroethene 1,2-Dichloroethane	ND	5	.583
	ND	5	.533
1,2-Dichloropropane 2-Butanone	ND	5 0	7.87
2-Chloroethylvinylether	ND	50	.828
2-Hexanone	ND	50	1.01
4-Methyl-2-Pentanone	ND	50	1.02
Acetone	ND	50	10.3
-3enzene	ND	5	819
Bromodichloromethane	ND	5	.334
Bromoform	ND		.293
Bromomethane	ND	5	1.53
-Carbon Disulfide	ND	5	1.31
Carbon Tetrachloride	ND	5555555555555555	1.28
Chlorobenzene	ND	5	.684
loroethane	ND	5	2.9
—Unloroform	ND	5	.854
Chloromethane	ND	5	1.69
cis-1,2-Dichloroethene	ND	5	.973
cis-1,3-Dichloropropene	ND	5	.474
-Dibromochloromethane	ND	5	.292
Ethylbenzene	ND		.72
Methyl tert-butyl ether (MTBE)	ND	10	.955
Methylene Chloride	2.23J	5 5	1.76
-Styrene	ND	5	.583
Tetrachloroethene	ND	5	1.22
Toluene	ND	5 5 5 5	.922
trans-1,2-Dichloroethene	ND	5	1.52
-trans-1,3-Dichloropropene	ND	5	.449
Trichloroethene	ND		.9.
Vinyl Acetate	ND	50	6.17
Vinyl Chloride	ND	5	1.68
~Xylenes	ND	5	2.41
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	,
2-Dighloroothane-d4	89	62-139	
-1,2-Dichloroethane-d4 Toluene-d8	97	75 - 125	
Bromofluorobenzene	99	75-125	
DIOMOTIMOTODENZENE	29	10 120	

PRL: Project Reporting Limit

* : Out side of QC Limit

J : An estimated value between PRL and MDL

E : Value exceed the upper level of the initial calibration

: Found in the associated blank

: Value from dilution analysis

METHOD 5030A/8260A VOLATILE ORGANICS BY GC/MS

: OHM REMEDIATION SERVICES DaTime Collcted: NA Client : MCAS EL TORO/18609/D.O. 70 DaTime Received: 08/12/98 Project DaTime Extrctd: 08/12/98 14:20 DaTime Analyzd: 08/12/98 14:20 Batch No. : 98H040 Sample ID : MBLK1S Lab Cnt NO.: VOH1201B Dilutn Factor Matrix : SOIL Lab File ID: RHV181 % Moisture : NA Ext Btch ID: VOH1201B Instrument ID : T-001 Calib. Ref.: RHV177

PARAMETERS	RESULTS (ug/kg)	PRL (ug/kg)	MDL (ug/kg)
1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,2-Dichloroethane 1,2-Dichloropropane 2-Butanone 2-Chloroethylvinylether 2-Hexanone 4-Methyl-2-Pentanone Acetone Benzene Bromodichloromethane Bromoform Bromomethane Carbon Disulfide Carbon Tetrachloride Chloroethane Chloroethane Chloroethane cis-1,2-Dichloroethene cis-1,3-Dichloropropene Dibromochloromethane Ethylbenzene Methyl tert-butyl ether (MTBE) Methylene Chloride Styrene Tetrachloroethene Toluene trans-1,2-Dichloroethene trans-1,3-Dichloropropene Trichloroethene Vinyl Acetate Vinyl Chloride Xylenes SURROGATE PARAMETERS	ND N	55555555555555555555555555555555555555	.331 .3333 .3333 .333662 .33762 .175449 .2489 .25799 .17977 .4246 .2912 .2912 .3379 .4386556119 .431486556119 .431486556111 .2912 .33148 .2912 .3314
~			

SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
1,2-Dichloroethane-d4	89	52-149
Toluene-d8	97	65-135
Bromofluorobenzene	99	65 - 135

PRL: Project Reporting Limit : Out side of QC Limit

: An estimated value between PRL and MDL

: Value exceed the upper level of the initial calibration

: Found in the associated blank : Value from dilution analysis

CLIENT:

OHM REMEDIATION SERVICES

:OJECT:

MCAS EL TORO/18609/D.O. 70

ATCH NO.: 98H040

METHOD 5030A/8260A 1 00:

_ATRIX:

WATER

% MOISTURE:

NA

DILTH FACTR: SAMPLE ID: ONTROL NO.:

AB FILE ID:

MBLK1W

VOH1201B

VOH1101L

VOH1101C

RHV181

RHV179

RHV180

DATIME EXTRCTD: DATIME ANALYZD: 08/12/9814:20 08/12/9813:20 08/12/9813:47

VOH1201B

08/12/9814:20 08/12/9813:20 08/12/9813:47

DATE COLLECTED: NA DATE RECEIVED: 08/12/98

₹EP. BATCH: __ALIB. REF:

VOH1201B RHV177

RHV177

VOH1201B

RHV177

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT	MAX RPD %
.1-Dichloroethene	ND	20	22.7	113	20	18.9	95	18	75-125	20
enzene	ND	20	19.1	96	20	19.5	97	2	75 - 125	20
Chlorobenzene	ND	20	20	100	20	20.3	102	2	75-125	20
Toluene	ND	20	19.5	98	20	20.2	101	3	74-125	20
richloroethene	ND	20	19.6	98	20	19.5	98	0	71-125	20

SURROGATE PARAMETER	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	QC LIMIT
Dichlorethane-d4	50	48.2	96	50	49.5	99	62-139
uene-d8رـــــــآ	50	48.7	97	50	47.7	95	7 5 - 125
Bromofluorobenzene	50	49.4	99	50	49.2	98	75 - 125

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

BATCH NO.:

98H040

METHOD: METHOD 5030A/8260A

MATRIX: DILTH FACTR: SOIL

% MOISTURE:

NA

SAMPLE ID: CONTROL NO.:

MBLK1S

VOH1201B

VOH1101L RHV179

VOH1101C

RHV180

RHV181 DATIME EXTRCTD: 08/12/9814:20

08/12/9813:20 08/12/9813:47

DATIME ANALYZD: 08/12/9814:20

08/12/9813:20 08/12/9813:47

DATE COLLECTED: NA

PREP. BATCH: CALIB. REF:

LAB FILE ID:

VOH1201B

VOH1201B

VOH1201B

DATE RECEIVED: 08/12/98

RHV177

RHV177

RHV177

	BLNK RSLT	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	RPD	QC LIMIT	MAX RPD
PARAMETER	ug/kg	ug/kg	ug/kg	% REC	ug/kg	ug/kg	% REC	%	%	%
1,1-Dichloroethene	ND	20	22.7	113	20	18.9	95	18	65-135	3 0
Benzene	ND	20	19.1	96	20	19.5	97	2	65-135	30
Chlorobenzene	ND	20	20	100	20	20.3	102	2	65 - 135	30
Toluene	ND	20	19.5	98	20	20.2	101	3	64-135	3 0
Trichloroethene	ND	20	19.6	98	20	19.5	98	0	61-135	30

SURROGATE PARAMETER	SPIKE AMT ug/kg	BS RSLT ug/kg	BS % REC	SPIKE AMT	BSD RSLT ug/kg	BSD % REC	QC LIMIT
1,2-Dichlorethane-d4	50	48.2	96	50	49.5	99	52-149
Toluene-d8	50	48.7	97	50	47.7	9 5	65~135
Bromofluorobenzene	50	49.4	99	50	49.2	98	65-135

CLIENT:

OHM REMEDIATION SERVICES

OJECT:

MCAS EL TORO/18609/D.O. 70

TCH NO .:

98H040

Դ0∶

METHOD 5030A/8260A

% MOISTURE:

DATE RECEIVED:

NA

08/11/98

DATE COLLECTED: 08/11/98

TRIX: DILTH FACTR: WATER

SAMPLE ID: NTROL NO.: 20253-543

H039-02

H039-02M

H039-02S

RHV183

RHV184

RHV185

AB FILE ID: DATIME EXTRCTD: 08/12/9815:22 08/12/9815:48 08/12/9816:15

DATIME ANALYZD: 08/12/9815:22 08/12/9815:48 08/12/9816:15

VOH1201B

MEP. BATCH: __\LIB. REF:

VOH1201B

RHV177

RHV177

RHV177

VOH1201B

PARAMETER	SMPL RSLT ug/L	SPIKE AMT ug/L	MS RSLT ug/L	MS % REC	SPIKE AMT ug/L	MSD RSLT ug/L	MSD % REC	RPD %	QC LIMIT	MAX RPD %
.1-Dichloroethene	ND	50	55.5	111	50	61.5	123	10	75-125	20
enzene	ND	50	48.4	97	50	53.5	107	10	75-125	20
Chlorobenzene	ND	50	50.6	101	50	54.5	109	8	75 - 125	20
Toluene	ND	50	50.2	100	50	55.4	111	10	74-125	20
richloroethene	ND	50	50	100	50	53.8	108	7	71-125	20

SURROGATE PARAMETER	SPIKE AMT ug/L	MS RSLT ug/L	MS % REC	SPIKE AMT ug/L	MSD RSLT ug/L	MSD % REC	QC LIMIT
·Dichlorethane-d4	50	48.3	97	50	50	100	62-139
≺uene-d8	50	47.7	95	50	49.5	99	75 - 125
Bromofluorobenzene	50	49.6	99	50	50.8	102	75 - 125

__ : Out side of QC Limit

METHOD 3520B/8270B SEMIVOLATILE ORGANICS BY GC/MS

Client : OHM REMEDIATION SERVICES Project : MCAS EL TORO/18609/D.O. 70 Batch No. : 98H040 Sample ID: MBLK1W Lab Samp ID: SVH011WB Lab File ID: RHS158 Ext Btch ID: SVH011W Calib. Ref.: RHS157	Date Date Date Dilut Matri % Mois Instri	Collected: Received: Extracted: Analyzed: ion Factor: K: sture: ument ID:	U8/19/98 15:35 1 WATER NA T-004
PARAMETERS 1,2,4-TRICHLOROBENZENE 1,3-DICHLOROBENZENE 1,4-DICHLOROBENZENE 2,21-OXYBIS(1-CHLOROPROPANE) 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DINETHYLPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,5-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROPHENOL 2-METHYLPHENOL 2-MITROANILINE 2-METHYLPHENOL 2-NITROANILINE 2-NITROPHENOL 3,31-DICHLOROBENZIDINE 3-NITROANILINE 4,6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYLETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-METHYLPHENOL 2,0-MIT-OANILINE 4-METHYLPHENOL 2,0-MIT-OANILINE 4-NIT-OOANILINE 4-NIT-OOAN		RL) - 100 100 100 100 100 100 100 100 100 1	.86 .51 .8
SURROGATE PARAMETERS % 2-FLUOROPHENOL PHENOL-D5 NITROBENZENE-D5 2-FLUOROBIPHENVL 2,4,6-TRIBROMOPHENOL TERPHENYL-D14 PRL: Project Reporting Limit	35 40 41 46 39 65	QC LIMIT 25-125 25-125 32-125 43-125 25-134 42-126	

PRL: Project Reporting Limit
(1): Cannot be separated from Diphenylamine
(2): Cannot be separated from 3-Methylphenol

METHOD 3550A/8270B SEMIVOLATILE ORGANICS BY GC/MS

Client : OHM REMEDIATION SERVICES	Date		
Project: MCAS EL TORO/18609/D.O. 70 3atch No.: 98H040 3ample ID: MBLK1S	Date Date	Received: (Extracted: (
ab Samp ID: SVH012SB	Diluti	ion factor: '	
File ID: RHB155 Btch ID: SVH012S	Matrix % Mois	sture : N	
Câlib. Ref.: RHB148			r-003
Name .	RESULTS	RL	MDL
PARAMETERS	(ug/kg)	(ug/kg)	(ug/kg)
1,2,4-TRICHLOROBENZENE	ND	330	136
1,2-DICHLOROBENZENE	ND	330	129
1,3-DICHLOROBENZENE	ND	330	125
1,4-DICHLOROBENZENE	ND	330	117
2,2'-OXYBIS(1-CHLOROPROPANE) 2,4,5-TRICHLOROPHENOL	ND	330	149
	ND	830	81
4,6-TRICHLOROPHENOL	ND	330	118
	ND	330	154
2,4-DIMETHYLPHENOL	ND	330	115
2,4-DINITROPHENOL	ND	830	162
2,4-DINITROTOLUENE	ND ND	330	59.8 74
?,6-DINITROTOLUENE ?-CHLORONAPHTHALENE	ND	330 330	133
2-CHLOROPHENOL	ND	330	121
2-METHYLNAPHTHALENE	ND	330	144
2-METHYLPHENOL	ND	330	138
?-NITROANILINE	ND	830	88 <u>.</u> 8
!-NITROPHENOL	ND	330	150
;,3!-DICHLOROBENZIDINE	ND	330	73.4
3-NITROANILINE	ND	830	87.1
4,6-DINITRO-2-METHYLPHENOL	ND	830	113
4-BROMOPHENYL-PHENYLETHERCHLORO-3-METHYLPHENOL	ND	330	77.6
	ND	330	110
CHLOROANILINE	ND	330	120
	ND	330	81.9
4-METHYLPHENOL (2)	ND	330	139
4-NITROANILINE	ND	830	70.1
- NI TROPHENOL	ND	830	152
CENAPHTHENE	ND	330	104
CENAPHTHYLENE	ND	330	103
ANTHRACENE	ND	330	
BENZO(A)ANTHRACENE	ND	330	68.6
BENZO(B)FLUORANTHENE	ND	330	63.8
ZO(G,H,I)PERYLENE	ND	330	41.5
	ND	330	68.3
ZO(K)FLUORANTHENE S(2-CHLOROETHOXY)METHANE	ND	330	149 85.5
BIS(2-ETHYLHEXYL)PHTHALATE	ND	330	75.7
BUTYLBENZYLPHTHALATE	ND	330	
HRYSENE	ND	330	90.1
I-N-BUTYLPHTHALATE	ND	330	79.7
I-N-OCTYLPHTHALATE	ND	330	50
DIBENZOFURAN	ND	330	_104
DIETHYLPHTHALATE	ND	330	54.5
DIMETHYLPHTHALATE	ND	330	59.9
LUORANTHENE	ND	330	77.4
LUORENE	ND	330	74
HEXACHLOROBUTADIENE HEXACHLOROCYCLOPENTADIENE	ND	330	140
	ND	330	178
HEXACHLOROETHANE -NITROSODIPHENYLAMINE (1)	ND	330	126
	ND	330	71.9
APHTHALENE	ND	330	135
LTROBENZENE	ND	330	134
PHENANTHRENE	ND	330	66.5
PHENOL	ND	330	160
TYRENE	ND	330	90.1
URROGATE PARAMETERS	% RECOVERY	QC LIMIT	
2-FLUOROPHENOL	55	25 - 135	
PHENOL-D5	59	25 - 135	
ITROBENZENE-D5	54	25 - 135	
-FLUOROBIPHENYL	61	34 - 135	
.4.6-TRIBROMOPHENOL	56	25-144	
TERPHENYL-D14	56	32-1 3 6	
RL: Project Reporting Limit			

RL : Project Reporting Limit
1) : Cannot be separated from Diphenylamine
2) : Cannot be separated from 3-Methylphenol

CLIENT: PROJECT: BATCH NO.: METHOD:

1

WATER

1

MATRIX: W//
DILUTION FACTOR: 1
SAMPLE ID: ME
LAB SAMP ID: SV
LAB FILE ID: RAMP
DATE EXTRACTED: OF
DATE ANALYZED: OF
PREP. BATCH: SV
CALIB. REF: RE 1 MBLK1W SVH011WB RHS158 08/11/9820:00 08/19/9815:35 SVH011W RHS157

SVH011WL RHS159 08/11/9820:00 08/19/9816:27 SVH011W RHS157

SVH011WC RHS160 08/11/9820:00 08/19/9817:22 SVH011W RHS157

DATE COLLECTED: DATE RECEIVED:

% MOISTURE:

NA 08/11/98

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT	MAX RPD (%)
1,2,4-Trichlorobenzene 1,4-Dichlorobenzene 2,4-Dinitrotoluene 2-Chlorophenol 4-Chloro-3-Methylphenol 4-Nitrophenol Acenaphthene N-Nitroso-di-n-propyl. Pentachlorophenol Phenol Pyrene	ND ND ND ND ND ND ND ND ND	100 100 150 150 150 100 100 150 150	47.7 40.4 70.8 70 84 78.9 60.8 56.5 90.2 71.2 76.4	48 40 71 47 56 53 61 57 60 47 76	100 100 150 150 150 100 100 150 150	38.1 34.3 56.1 61.8 67.8 49.3 45.3 67.3 59.6	38* 556 41 458 495 45 4064	22* 16 23* 13 21* 32* 21* 22* 29* 18	44-142 30-125 39-139 41-125 25-131 49-125 37-125 28-136 47-136	20 20 20 20 20 20 20 20 20 20 20

SURROGATE PARAMETER	SPIKE AMT	BS RSLI (ug/L)	% REC	(ug/L)	(ug/L)	% REC	QC LIMIT
2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromophenol Terphenyl-d14	150	54.9	37	150	48.6	32	25-125
	150	67	45	150	55.8	37	25-125
	100	46.3	46	100	38.7	39	32-125
	100	54.2	54	100	44.3	44	43-125
	150	78.1	52	150	61	41	25-134
	100	72.3	72	100	58.5	58	42-126

^{* :} Out of QC limit

CLIENT:

OHM REMEDIATION SERVICES

ROJECT:

MCAS EL TORO/18609/D.O. 70

ATCH NO.:

98H040

: DO: METHOD 3550A/8270B

TATRIX:

SOIL

% MOISTURE:

NA

08/12/98

DILUTION FACTOR: 1

AMPLE ID: AB SAMP ID: MBLK1S

SVH012SB

SVH012SL

SVH012SC

RHB155

RHB156

RHB157

DATE EXTRACTED: 08/12/9813:00 08/12/9813:00 08/12/9813:00 08/13/9805:15 08/13/9806:07 08/13/9807:00

DATE COLLECTED: NA DATE RECEIVED:

ATE ANALYZED: __REP. BATCH:

TAB FILE ID:

SVH012S

SVH012S

SVH012S

CALIB. REF:

RHB148

RHB148

RHB148

CCESSION:

	BLNK RSLT	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	RPD	QC LIMIT	MAX RPD
ARAMETER	(ug/kg)	(ug/kg)	(ug/kg)	% REC	(ug/kg)	(ug/kg)	% REC	(%)	(%)	(%)
1,2,4-Trichlorobenzene	ND	3330	1890	57	3330	2010	60	6	34-152	30
1,4-Dichlorobenzene	ND	3330	1980	60	3330	2100	63	6	25 - 135	30
,4-Dinitrotoluene	ND	3330	2310	69	3330	2650	80	14	29-149	30
Chlorophenol	ND	5000	2810	56	5000	3090	62	9	31-135	, 30
4-Chloro-3-Methylphenol	ND	5000	2920	58	5000	3160	63	8	34-135	30
4-Nitrophenol	ND	5000	2790	56	5000	3330	67	18	25-141	3 0
cenaphthene	ND	3330	2100	63	3330	2250	68	7	39-135	30
henol	ND	5000	2870	57	5000	3090	62	7	25 - 135	30
Pyrene	ND	3330	1790	54	3330	2080	62	15	37-146	30

URROGATE PARAMETER	SPIKE AMT (ug/kg)	BS RSLT (ug/kg)	BS % REC	SPIKE AMT (ug/kg)	BSD RSLT (ug/kg)	BSD % REC	QC LIMIT
?-Fluorophenol	5000	2870	57	5000	2760	55	25-135
henol-d5	5000	2810	56	5000	2730	55	25 - 135
Nitrobenzene-d5	3330	1830	55	3330	1800	54	25-135
2-Fluorobiphenyl	3330	1960	59	3330	1900	57	34-125
,4,6-Tribromophenol	5000	2820	56	5000	2860	57	25-144
erphenyl-d14	333 0	1780	53	3330	1870	56	32-136

METHOD 3550A/8270B SIM SEMI VOLATILE ORGANICS BY GC/MS

Client : OHM REMEDIATION SERVICES Date Collected: NA

Date Received: 08/12/98

Project : MCAS EL TORO/18609/D.O. 70 Batch No. : 98H040 Date Extracted: 08/12/98 13:00 Sample ID: MBLK1S Date Analyzed: 08/26/98 18:17

Dilution Factor: 1 Lab Samp ID: SVH012SB Lab File ID: RHB417 Matrix : SOIL Ext Btch ID: SVH012S % Moisture : NA Instrument ID : T-003 Calib. Ref.: RHB416

PARAMETERS	RESULTS (ug/kg)	RL (ug/kg)	MDL (ug/kg)
BENZO(A)PYRENE	ND	33	6.75
BIS(2-CHLOROETHYL)ETHER	ND	33	6.39
DIBENZO(A, H)ANTHRACENE	ND	33	9.32
HEXACHLOROBENZENE	ND	3 3	14.1
INDENO(1,2,3-CD)PYRENE	ND	3 3	6.5
N-NITROSO-DI-N-PROPYLAMINE	ND	33	4.22
PENTACHLOROPHENOL	ND	33	8.67

PRL: Project Reporting Limit

METHOD 3520B/8081 PESTICIDES/PCBS

	:=======	=======================================	
ient : OHM REMEDIATION SERVI		Date Collected:	
oject : MCAS EL TORO/18609/D.	0.70	Date Received:	
E 1 No. : 98H040		Date Extracted:	
Sample ID: MBLK1W			08/15/98 15:08
b Samp ID: CPHO21WB		Dilution Factor:	1
b File ID: SH15007A		Matrix :	WATER
Ext Btch ID: CPH021W		% Moisture :	NA
Calib. Ref.: SH15003A		Instrument ID :	GCT008
	========	=======================================	==========
landers.			
	RESULTS	PQL	MDL
RAMETERS	(ug/L)	(ug/L)	(ug/L)
ATPHA-BHC	(ND) ND	.03	.015 .02
BETA-BHC	(ND) ND	.03	.013 .021
! _TA-BHC	(ND) ND	.03	.018 .025
MMA-BHC (LINDANE)	(ND) ND	.06	.015 .032
ALPHA-CHLORDANE	(ND) ND	.03	.013 .012
SAMMA - CHLORDANE	(ND) ND	.03	.012 .011
	(ND) ND	.5	.02 .047
· + - DDD	•	.58	.022 .02
	(ND) ND		
4,4'-DDT	(ND) ND	.1	.025 .027
/ DRIN	(ND) ND	.06	.031 .018
ELDRIN	(ND) ND	.03	.022 .021
ENDOSULFAN I	(ND) ND	.03	.011 .012
ENDOSULFAN II	(ND) ND	.2	.016 .117
i DOSULFAN SULFATE	(DA) DA	.1	.033 .02
E_)RIN	(ND) ND	.1	.021 .025
ENDRIN ALDEHYDE	(ND) ND	• .1	.018 .023
ENDRIN KETONE	(ND) ND	.1	.024 .024
: CHLOR	(ND) ND	.03	.019 .02
TACHLOR EPOXIDE	(ND) ND	.03	.012 .013
METHOXYCHLOR	(ND) ND	.5	.12).117
TOYAPHENE	(ND) ND	.5	.588 .572
÷ 3-1016	(ND) ND	1	.834 .603
≈08 -1221	(ND) ND	2	1.12 .831
PCB-1232	(ND) ND	1	.388[.574
F 1-1242	(ND) ND	1	.465 .249
F 3-1248	(ND) ND	1	.432 .354
PCB-1254	(ND) ND	1	.299 .495
PCB-1260	(ND) ND	1	.387 .342
	•		
::ROGATE PARAMETERS	% RECOVERY	C QC LIM	ΙΤ
DECACHLOROBIPHENYL	133 (129)	34-13	33
7 'RACHLORO-M-XYLENE	81 (67)	45-12	25
Managed .	•		
PRL: Project Reporting Limit			
it of is result from the firs	t column. R	ight of is resul	t from the
s ond column. () Final result		•	•
* Outside of QC limit			
: An estimated value between P	RL and MDL		
- Value evered the upper level		tial calibration	

: Value exceed the upper level of the initial calibration

:__: Found in the associated blank
: Value from dilution analysis

REVISED REPORT

METHOD 3550A/8081 PESTICIDES/PCBS

Client : OHM REMEDIATION SERVICE Project : MCAS EL TORO/18609/D.C Batch No. : 98H040 Sample ID: MBLK1S Lab Samp ID: CPH016SB Lab File ID: SH12026A Ext Btch ID: CPH016S Calib. Ref.: SH12024A	CES D. 70	Date Collected: NA Date Received: 08/12/98 Date Extracted: 08/12/98 14:00 Date Analyzed: 08/12/98 23:13 Dilution Factor: 1 Matrix : SOIL % Moisture : NA Instrument ID : GCT008
PARAMETERS	RESULTS (ug/kg)	PQL MDL (ug/kg)
ALPHA-BHC BETA-BHC DELTA-BHC (LINDANE) ALPHA-CHLORDANE GAMMA-BHC (LINDANE) ALPHA-CHLORDANE 4,4'-DDD 4,4'-DDE 4,4'-DDT ALDRIN DIELDRIN ENDOSULFAN I ENDOSULFAN II ENDOSULFAN SULFATE ENDRIN ENDRIN ALDEHYDE ENDRIN ALDEHYDE ENDRIN KETONE HEPTACHLOR HEPTACHLOR HEPTACHLOR TOXAPHENE PCB-1016 PCB-1221 PCB-1232 PCB-1248 PCB-1254 PCB-1260	RESULTS (ug/kg)	PQL (ug/kg) 1.5
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
DECACHLOROBIPHENYL TETRACHLORO-M-XYLENE	74 (74) 88 (87)	25-143 35-135
PRL: Project Reporting Limit Left of is result from the first second column. () Final result * Outside of QC limit J : An estimated value between PRI E : Value exceed the upper level of B : Found in the associated blank D : Value from dilution analysis	L alla MDL	

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

98H040

SDG NO.: METHOD 3520B/8081 METHOD:

MATRIX:

WATER

% MOISTURE:

DILTN FACTR:

1

1

1

SAMPLE ID: CONTROL NO.: MBLK1W CPH021WB

CPH021WL

CPH021WC

LAB FILE ID: SH15007A SH15008A

SH15009A

DATIME EXTRCTD: 08/14/9817:00 08/14/9817:00 08/14/9817:00

DATIME ANALYZD: 08/15/9815:08 08/15/9815:39 08/15/9816:06

DATE COLLECTED: NA

DATE RECEIVED: 08/14/98

PREP. BATCH:

CPH021W

CPH021W

CPH021W

CALIB. REF:

SH15003A

SH15003A

SH15003A

ACCESSION:

PARAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
gamma-BHC (Lindane)	(ND) ND	.5	.304 (.313)	61* (63*)	.5	.376 (.397)	75 (79)	21 24	73-125	30
4,4'-DDT	(ND) ND	1	1.05 (1.08)	105 (108)	1	1.11 (1.16)	111 (116)	6 7	34-143	30
Aldrin	(ND) ND	.5	(.322) .317	(64) 63	.5	.392 (.401)	78 (80)	20 23	47-125	30
Dieldrin	(ND) ND	1	.83 (.893)	83 (89)	1	.911 (1)	91 (100)	9 11	42-132	30
Endrin	(ND) ND	1	.903 (.95)	90 (95)	1	.968 (1.04)	97 (104)	7 9	43-134	30
Heptachlor	(ND) ND	.5	.303 (.319)	61 (64)	.5	.37 (.399)	74 (80)	20 22	45-128	30

	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	QC LIMIT
SURROGATE PARAMETER	ug/L	ug/L	% REC	ug/L	ug/L	% REC	%
Decachlorobiphenyl	.2	(.257) .256	129 (128)	.2	(.267) .263	133 (132)	34-133
Tetrachloro-m-xylene	.2	(.125) .105	62 (52)	.2	(.126) .112	63 (56)	45-125

^{*:} Outside of QC limit

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

SDG NO.:

98H040

METHOD:

METHOD 3550A/8081

MATRIX:

SOIL

% MOISTURE:

NA

DILTN FACTR:

SAMPLE ID: MBLK1S

CONTROL NO.: CPH016SB CPH016SL

1

CPH016SC

SH12026A

SH12027A

SH12028A

DATIME EXTRCTD: 08/12/9814:00 08/12/9814:00 08/12/9814:00

DATE COLLECTED: NA

DATE RECEIVED: 08/12/98

DATIME ANALYZD: 08/12/9823:13 08/12/9823:40 08/13/9800:06

CPH016S

CPH016S

PREP. BATCH: CALIB. REF:

LAB FILE ID:

CPH016S SH12024A

SH12024A

SH12024A

ACCESSION:

PARAMETER	BLNK RSLT ug/kg	SPIKE AMT ug/kg	BS RSLT ug/kg	BS % REC	SPIKE AMT ug/kg	BSD RSLT ug/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
gamma-BHC (Lindane)	(ND) ND	16.7	14.44 (15.4)	86 (92)	16.7	13.31 (141)	80 (84)	8 10	63-130	50
4,4'-DDT	(ND) ND	33.3	30.1 (32.3)	90 (97)	33.3	30.6 (32.4)	92 (97)	2 0	25-153	50
Aldrin	(ND) ND	16.7	14.6J (15.3)	88 (92)	16.7	13.41 (13.91)	80 (83)	9 10	37-126	50
Dieldrin	(ND) ND	33.3	29.9 (32.4)	90 (97)	33.3	29.6 (32)	89 (96)	1 1	32-142	50
Endrin	(ND) ND	33.3	30.9 (33)	93 (99)	33.3	30.5 (32.5)	92 (98)	1 2	33-144	50
Heptachlor	(ND) ND	16.7	13.7 (14.2)	82 (85)	16.7	12.7 (12.9)	76 (77)	8 10	35-138	50

SURROGATE PARAMETER	SPIKE AMT ug/kg	BS RSLT ug/kg	BS % REC	SPIKE AMT ug/kg	BSD RSLT ug/kg	BSD % REC	QC LIMIT
Decachlorobiphenyl	13.3	9.95 (10.2)	(75) 76	13.3	9.93 (10.1)	(74) 76	25~143
Tetrachloro-m-xylene	13.3	(11.5) 11.5	87 (86)	13.3	(10.2) 9.96	77 (75)	35~133

rlient : OHM REMEDIATION SERVICES Date Collected: NA roject : MCAS EL TORO/18609/D.O. 70 Date Received: NA

OG NO. : 98H040 Date Extracted: 08/12/98 13:30 le ID: MBLK1W Date Analyzed: 08/12/98 20:22

Lab Samp ID: IPH016WB Dilution Factor: 1

ab File ID: I07H016024 Matrix : WATER

xt Btch ID: IPH016W % Moisture : NA

Calib. Ref.: I07H016022 Instrument ID : EMAXTIO7

THE THE THE TERM TO THE TERM THE THE TERM THE THE TERM TH

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
:uminum	ND	500	25.6
ntimony	ND	500	39.8
o arium	ND	100	1.41
Beryllium	ND	10	.12
^admium	ND	5	2.06
alcium	ND	1000	9.61
1romium	ND	50	4.77
Cobalt	ND	50	6.64
Sopper	ND	50	6.47
on	ND	50	4.96
,agnesium	ND	1000	28.9
Manganese	ND	20	.64
Molybdenum	ND	100	9.37
ckel	ND	150	3.93
tassium	ND	5000	2960
Silver	ND	50	4.69
Sodium	ND	1000	38.2
ınadium	ND	100	4.7
nc	ND	20	2.47

RL: Reporting Limit

METHOD 3010A/6010A METALS BY TRACE-ICP

Client : OHM REMEDIATION SERVICES Date Collected: NA Project : MCAS EL TORO/18609/D.O. 70 Date Received: NA

SDG NO. : 98H040 Date Extracted: 08/12/98 13:30 Sample ID: MBLK1W Date Analyzed: 08/14/98 12:46

Lab Samp ID: IPH016WB Dilution Factor: 1
Lab File ID: I31H019016 Matrix : WATER
Ext Btch ID: IPH016W % Moisture : NA
Calib. Ref.: I31H019014 Instrument ID : EMAXTI31

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)

Arsenic	ND	5	4.37
Lead	ND	5	1.42
Selenium	ND	5	4.21
Thallium	ND	50	3.31

RL: Reporting Limit

METHOD 3050A/6010A TAL METALS BY ICP

Client : OHM REMEDIATION SERVICES Date Collected: NA roject : MCAS EL TORO/18609/D.O. 70 Date Received: NA

 DG NO.
 : 98H040
 Date
 Extracted: 08/12/98 13:30

 role
 ID: MBLK1S
 Date
 Analyzed: 08/12/98 19:08

Samp ID: IPH015SB Dilution Factor: 1
ab File ID: I07H016012 Matrix : SOIL
.xt Btch ID: IPH015S % Moisture : NA
Label Bef.: I07H016010 Instrument ID : EMAXTIO7

ARAMETERS	RESULTS (mg/kg)	RL (mg/kg)	MDL (mg/kg)
Alaman			4.24
Aluminum	ND	50	6.24
ntimony	ND	10	3.58
arium	ND	1	.13
Beryllium	ND	.2	.02
Cadmium	ND	2	.07
alcium	ND	100	1.99
hromium	ND	1	.6
Cobal t	ND	2	.61
Copper	ND	1	.74
ron	ND	5	.72
agnesium	ND	100	5.26
manganese	ND	2	.12
Molybdenum	ND	5	.65
'ickel	ND	2	.46
otassium	ND	500	194
lver	ND	2	1.41
Sodium	ND	100	6.39
Vanadium	ND	1	.83
inc	ND	2	.26

RL: Reporting Limit

METHOD 3050A/6010A METALS BY TRACE-ICP

lient : OHM REMEDIATION SERVICES	Date Collected: NA
roject : MCAS EL TORO/18609/D.O. 70	Date Received: NA
DG NO. : 98H040	Date Extracted: 08/12/98 13:30
ample ID: MBLK1S	Date Analyzed: 08/14/98 15:23
ab Samp ID: IPHO15SB	Dilution Factor: 1
ab File ID: 131H019039	Matrix : SOIL
:xt Btch ID: IPH0158	% Moisture : NA
lalib. Ref.: I31H019037	Instrument ID : EMAXTI31
	:======================================
	RESULTS RL MDL
PARAMETERS	(mg/kg) (mg/kg) (mg/kg)
Arsenic	ND 1 .513
Lead	ND .5 .264
Selenium	ND .5 .453
Thallium	ND 5 .466

RL: Reporting Limit

METHOD WET/3010A/6010B STLC METALS BY ICP

	RESULTS	RL	MDL
4-METERS	(ug/L)	(ug/L)	(ug/L)
acmium	ND	500	20.6
o er	ND	1000	64.7
:et	ND	1000	39.3

Extraction Date: 08/20/98

METHOD WET/3010A/6010B STLC METALS BY ICP

lient : OHM REMEDIATION SERVICES Date Collected: NA roject : MCAS EL TORO/18609/D.O. 70 Date Received: NA

 JDG NO.
 : 98H040
 Date Extracted: 08/24/98 11:30

 Jample ID: MBLK2W
 Date Analyzed: 08/25/98 02:03

 Jab Samp ID: WTH001SB
 Dilution Factor: 1

.ab Samp ID: WTH001SBDilution Factor: 1.ab File ID: I07H036039Matrix : WATERExt Btch ID: WTH001S% Moisture : NATalib. Ref.: I07H036034Instrument ID : EMAXTIO7

	RESULTS	RL	MDL
'ARAMETERS	(ug/L)	(ug/L)	(ug/L)
Jadmium	ND	500	20.6
Copper	ND	1000	64.7
ticket	ND	1000	39.3

√ET Extraction Date: 08/20/98

REVISED REPORT,

CLIENT: COJECT: OHM REMEDIATION SERVICES

MCAS EL TORO/18609/D.O. 70

)G 70.:

98H040

THOD:

METHOD 3010A/6010A

TRIX: LTN FACTR: WATER

1 1 % MOISTURE:

NA

SAMPLE ID:

MBLK1W

IPH016WL

IPH016WC

CONTROL NO.: IPH016WB .B FILE ID: I07H016024

I07H016025

107H016026

_\TIME EXTRCTD: 08/12/9813:30 08/12/9813:30 08/12/9813:30

1

DATE COLLECTED: NA

PREP. BATCH:

IPH016W

DATIME ANALYZD: 08/12/9820:22 08/12/9820:26 08/12/9820:30 IPH016W

IPH016W

DATE RECEIVED:

LIB. REF:

I07H016022

I07H016022

I07H016022

RAMETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT	MAX RPD %
Aluminum	ND	10000	9510	95	10000	9580	96	1	80-120	20
timony	ND	5000	4610	92	5000	4650	93	1	80-120	20
rium	ND	1000	942	94	1000	950	95	1	80-120	20
se ryllium	ND	1000	946	95	1000	951	95	1	80-120	20
Cadmium	ND	1000	953	95	1000	959	96	1	80-120	20
raldium	ND	50000	47000	94	50000	47400	95	1	80-120	20
romium	ND	1000	959	96	1000	962	96	0	80-120	20
-balt	ND	1000	968	97	1000	980	98	1	8,0-120	20
Copper	ND	1000	947	95	1000	952	95	0	80-120	20
Iron	ND	10000	9400	94	10000	9450	94	1	80-120	20
gnesium	ND	50000	46100	92	50000	47000	94	2	80-120	20
nganese	ND	1000	951	95	1000	956	96	1	80-120	20
Molybdenum	ND	1000	983	98	1000	1060	106	8	80-120	20
Nickel	ND	1000	945	94	1000	942	94	, 0	80-120	20
ssium	ND	50000	45100	90	50000	46100	92	2	80-120	20
_	ND	1000	966	97	1000	965	96	. 0	80-120	20
Sodium	ND	50000	47700	95	50000	48100	96	1	80-120	20
Vanadium	ND	1000	943	94	1000	951	95	. 1	80-120	20
nc	ND	1000	949	95	1000	955	96	1	80-120	20

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

SDG NO.:

98H040

METHOD 3010A/6010A METHOD:

WATER MATRIX:

1

% MOISTURE:

DILTN FACTR: SAMPLE ID: CONTROL NO.:

MBLK1W

IPH016WB

I31H019016

IPH016WL 131H019017 IPH016WC

LAB FILE ID: DATIME EXTRCTD:

DATIME ANALYZD: 08/14/9812:46 08/14/9812:53 08/14/9812:57

131H019018 08/12/9813:30 08/12/9813:30 08/12/9813:30

DATE COLLECTED: NA DATE RECEIVED:

PREP. BATCH: CALIB. REF:

IPH016W I31H019014 IPH016W I31H019014 IPH016W I31H019014

	BLNK RSLT	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	RPD	QC LIMIT	MAX RPD
PARAMETER	ug/Ĺ	ug/L	ug/L	% REC	ug/L	ug/L	% REC	%	%	%
Arsenic	ND	1000	1030	103	1000	1010	101	2	8 0-120	20
Lead	ND	1000	1090	109	1000	1090	109	1	80-120	20
Selenium	ND	1000	1030	103	1000	1030	103	1	80-120	20
Thallium	ND	1000	1060	106	1000	1060	106	0	80-120	20

CLIENT:

OHM REMEDIATION SERVICES

ROJECT:

MCAS EL TORO/18609/D.O. 70

DG NO .:

98H040

THOD:

METHOD 3050A/6010A

ATRIX:

SOIL

% MOISTURE:

ILTN FACTR: CONTROL NO.:

MBLK1S

IPH015SB

IPH015SL I07H016013

IPHO15SC I07H016014

1

I07H016012 ATIME EXTRCTD: 08/12/9813:30 DATIME ANALYZD: 08/12/9819:08

08/12/9813:30 08/12/9813:30

08/12/9819:12 08/12/9819:16

DATE COLLECTED: NA

PREP. BATCH:

AB FILE ID:

IPH015S

IPH015S

IPH015S

DATE RECEIVED: NA

NA

ALIB. REF:

I07H016010

I07H016010

I07H016010

ARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT	MAX RPD %
Aluminum	ND	1000	937	94	1000	917	92	2	80-120	20
*ntimony	ND	500	450	90	500	442	88	2	80-120	20
arium	ND	100	94.5	94	100	92.4	92	2	80-120	20
⊸ eryllium	ND	100	94.2	94	100	91.9	92	3	80-120	20
Cadmium	ND	100	91.7	92	100	90.2	90	2	80-120	20
Calcium	ND	5000	4500	90	5000	4440	89	1	80-120	20
hromium	ND	100	93.5	93	100	92	92	2	80-120	20
ےےobal t	ND	100	94.5	94	100	92.9	93	2	8 0-120	20
Copper	ND	100	94.8	95	100	92.6	93	2	80-120	20
Iron	ND	1000	925	93	1000	909	91	2	80-120	20
agnesium	ND	5000	4450	89	5000	4400	88	1	80-120	20
anganese	ND	100	92.5	92	100	90.9	91	2	80-120	20
Molybdenum	ND	100	101	101	100	101	101	0	80-120	20
Nickel	ND	100	91.2	91	100	89.5	89	2	80-120	20
assium	ND	5000	4380	88	5000	4410	88	1	80-120	20
,ver	ND	100	94.9	95	100	92.9	93	. 2	80-120	20
Sodium	ND	5000	4760	95	5000	4640	93	3	80-120	20
Vanadium	ND	100	92.5	92	100	91.2	91	1	80-120	20
inc	ND	100	93.7	94	100	91.4	91	3	80-120	20

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

SDG NO.:

METHOD:

98H040 METHOD 3050A/6010A

MATRIX: DILTN FACTR: SOIL

% MOISTURE: NA

SAMPLE ID: CONTROL NO.:

LAB FILE ID:

MBLK1S

IPH015SB

IPH015SL

IPH015SC

I31H019039 DATIME EXTRCTD: 08/12/9813:30 I31H019040

I31H019041

08/12/9813:30 08/14/9815:31

08/12/9813:30 08/14/9815:36

DATE COLLECTED: NA DATE RECEIVED:

DATIME ANALYZD: PREP. BATCH: CALIB. REF:

08/14/9815:23 IPH015S I31H019037

IPH015s I31H019037

IPH015S I31H019037

NΑ

PARAMETER	BLNK RSLT mg/kg	SPIKE AMT mg/kg	BS RSLT mg/kg	BS % REC	SPIKE AMT mg/kg	BSD RSLT mg/kg	BSD % REC	RPD %	QC LIMIT %	MAX RPD %
Arsenic	ND	100	94.3	94	100	94.4	94	0	80-120	20
Lead	ND	100	105	105	100	105	105	0	80-120	20
Selenium	ND	100	91.2	91	100	92.7	93	2	80-120	20
Thallium	ND	100	99.6	100	100	101	101	1	80-120	20

ENT:

OHM REMEDIATION SERVICES

CT:

MCAS EL TORO/18609/D.O. 70

0.:

98H040

METHOD WET/3010A/6010B

Х: FACTR: WATER

% MOISTURE:

PLE ID: ≈ "OL NO.:

ILE ID:

1

MBLK1W

IPH033WB

IPH033WL

IPH033WC

I07H036036 107H036037 107H036038

IME ANALYZD: 08/25/9801:44

E EXTRCTD: 08/24/9811:30 08/24/9811:30 08/24/9811:30 08/25/9801:48

08/25/9801:52

DATE COLLECTED: NA DATE RECEIVED:

P BATCH: . REF:

IPH033W 107H036034 IPH033W 107H036034 1PH033W I07H036034

ESSION:

ETER	BLNK RSLT ug/L	SPIKE AMT ug/L	BS RSLT ug/L	BS % REC	SPIKE AMT ug/L	BSD RSLT ug/L	BSD % REC	RPD %	QC LIMIT	MAX RPD %
mu i mt	ND	10000	10000	100	10000	10600	106	5	80-120	20
; r	ND	10000	10300	103	10000	10900	109	6	80-120	20
: 1	ND	10000	10000	100	10000	10600	106	5	80-120	20
••••										

REVISED REPORT

CLIENT: PROJECT:

OHM REMEDIATION SERVICES MCAS EL TORO/18609/D.O. 70 METHOD 1311/3010A/6010B

METHOD: MATRIX:

WATER

% MOISTURE:

NA

BATCH NO.:

98H040

SAMPLE ID: CONTROL NO.: LCS1W/LCD1W

IPH033WL/C

DATE RECEIVED: 08/24/98

DATE EXTRACTED: 08/24/98 11:30

DATE ANALYZED: 08/25/98 01:48/01:52

ACCESSION:

BLNK RSLT SPIKE AMT BS RSLT BS SPIKE AMT BSD RSLT RPD QC LIMIT RPD LIMIT BSD (ug/L) (ug/L) (ug/L) % REC **PARAMETER** % REC (ug/L) (ug/L) % % % ------ND 10000.00 10000.00 100 10000.00 Cadmium 10600.00 70-130 20 106 6

CLIENT:

OHM REMEDIATION SERVICES MCAS EL TORO/18609/D.O. 70

OJECT:

98H040

G NO.: : QC

METHOD 3050A/6010A

TRIX: DILTN FACTR: SOIL

% MOISTURE:

17.9

SAMPLE ID: ONTROL NO.: .B FILE ID: 18609-963

H040-05

H040-05M I07H016016

H040-05S

I07H016018

I07H016019

08/12/9813:30 08/12/9813:30 08/12/9819:42 08/12/9819:46

DATE COLLECTED: 08/11/98 DATE RECEIVED: 08/11/98

DATIME ANALYZD: PREP. BATCH:

08/12/9819:31 IPH015S

IPH015S

IPH015S

LIB. REF:

TIME EXTRCTD:

I07H016010

08/12/9813:30

I07H016010

I07H016010

RAMETER	SMPL RSLT mg/kg	SPIKE AMT mg/kg	MS RSLT mg/kg	MS % REC	SPIKE AMT mg/kg	MSD RSLT mg/kg	MSD % REC	RPD %	QC LIMIT	MAX RPD %
A uminum	6610	1220	8420	148F	1220	10500	317F	73*	80-120	20
timony	ND	609	346	57G	609	33 2	54G	4	80-120	20
ırium	75.2	122	187	92	122	197	100	8	80-120	20
ซีย์ryllium	.261	122	110	90	122	108	89	2	80-120	20
Cadmium	97.8	122	232	110	122	243	119	8	80-120	20
lcium	5890	6090	11300	89	6090	11700	95	6	80-120	20
ıromium	30	122	154	102	122	145	95	7	80-120	20
' -cd balt	4.79	122	114	90	122	115	90	1	80-120	20
Copper	628	122	233	-324F	122	463	-135F	82*	80-120	20
ron	17400	. 1220	14300	-256F	1220	18700	103	471*	80-120	20
ıgnesium	3020	6090	8570	91	6090	8470	89	2	80-120	20
inganese	183	122	261	64G	122	341	130G	68*	80-120	20
Molybdenum	6.58	122	120	93	122	122	95	2	80-120	20
મickel	957	122	154	-660F	122	264	-569F	15	80-120	20
ssium	2950	6090	8240	87	6090	8450	90	4	80-120	20
rver	ND	122	107	87	122	98.5	81	8	80-120	20
Sodium	2020	6090	7510	90	6090	7780	95	5	80-120	20
Vanadium	19.4	122	130	91	122	128	89	2	80-120	20
nc	568	122	877	254 F	122	1050	393F	43*	80-120	20

[:] The QC limit does not apply since analyte concentration was more than 4x the spike concentration.

[:] Out of QC limit probably due to matrix interferences.

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

SDG NO.: 98H040

METHOD:

METHOD 3050A/6010A

MATRIX: DILTN FACTR: SAMPLE ID:

SOIL

H040-05

1

18609-963

H040-05M H040-05S

CONTROL NO.: LAB FILE ID: I31H019045 DATIME EXTRCTD:

I31H019047 08/12/9813:30

08/12/9813:30

I31H019048 08/12/9813:30

08/14/9816:06

08/14/9816:18 IPH015S

08/14/9816:22

IPH015s

DATIME ANALYZD: PREP. BATCH: CALIB. REF:

IPH015s

I31H019037

I31H019037

I31H019037

DATE COLLECTED: 08/11/98 DATE RECEIVED: 08/11/98

17.9

% MOISTURE:

PARAMETER	SMPL RSLT	SPIKE AMT	MS RSLT	MS	SPIKE AMT	MSD RSLT	MSD	RPD	QC LIMIT	MAX RPD
	mg/kg	mg/kg	mg/kg	% REC	mg/kg	mg/kg	% REC	%	%	%
Arsenic Lead	3.3 13.4	122 122	117 145	93 108	122	114	91 110	3	80-120 80-120	20
Selenium	.655	122	113	92	122	118	96	4	80-120	20
Thallium	ND	122	125	103	122	120	98	5	80-120	20

EMAX QUALITY CONTROL DATA SERIAL DILUTION ANALYSIS

CLIENT: OJECT: OHM REMEDIATION SERVICES MCAS EL TORO/18609/D.O. 70

TCH NO .:

98H040

: QO''

SAMPLE ID:

METHOD 3050A/6010A

% MOISTURE:

DATE RECEIVED:

17.9

08/11/98

DATE COLLECTED: 08/11/98

TRIX: SOIL LUTION FACTOR: 1

18609-963

18609-963DL H040-05T

н040-05 MAX SAMP ID:

B FILE ID:

I07H016016

I07H016017

TE EXTRACTED:

08/12/9813:30

08/12/9813:30

08/12/9819:31

08/12/9819:38

IPHO15S

IPH015S

PREP. BATCH: LIB. REF:

I07H016010

I07H016010

ACCESSION:

RAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT
Aluminum	6610	7200	9	10
timony	ND	ND	0	10
rium	75.2	79.2	5	10
beryllium −	.261	ND	NA	10
Cadmium	97.8	107	10	10
′~lcium	5890	6580	12H	10
romium	30	31. 5	5	10
⊶oalt	4.79	ND	NA	10
Copper	628	673	7	10
iron	17400	19300	11H	10
gnesium	3020	330 0	9	10
nganese	183	201	10	10
Molybdenum	6.58	ND	NA	10
Mickel	957	1070	12H	10
isium	2950	ND	NA	10
: wer	ND	ND	0	10
Sodium	2020	2050	1	10
Vanadium	19.4	22	13R	10
nc	568	627	10H	10

Out of QC limit, matrix effect was suspected.

The QC limit does not apply since analyte concentration was

less than 50X MDL.

EMAX QUALITY CONTROL DATA SERIAL DILUTION ANALYSIS

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

BATCH NO .:

98H040

METHOD 3050A/6010A METHOD:

~______

MATRIX: SOIL DILUTION FACTOR: 1

% MOISTURE:

17.9

SAMPLE ID:

18609-963

18609-963DL H040-05T

EMAX SAMP ID:

H040-05 I31H019045

LAB FILE ID:

I31H019046

5

DATE ANALYZED:

DATE EXTRACTED: 08/12/9813:30 08/12/9813:30

08/14/9816:06 08/14/9816:14

DATE COLLECTED: 08/11/98 DATE RECEIVED: 08/11/98

PREP. BATCH: CALIB. REF:

IPH015S

I31H019037

IPH015S I31H019037

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT
Arsenic	3.3	ND	NA	10
Lead	13.4	17.5	31R	10
Selenium	.655	ND	NA	10
Thallium	ND	ND	O	10

The QC limit does not apply since analyte concentration was

less than 50X MDL.

OHM REMEDIATION SERVICES .IENT: JECT: MCAS EL TORO/18609/D.O. 70

METHOD 9010A HOD:

Y: TURE: SOIL

NA

..OH NO.: 98H040

DATE RECEIVED: NA
DATE EXTRACTED: 08/13/98 09:00 LCS1S AMPLE ID: CNH005SL DATE ANALYZED: 08/13/98 19:38 TROL NO.:

ESSION:

BLNK RSLT SPIKE AMT LCS RSLT LCS QC LIMIT AMETER % REC (mg/kg) (mg/kg) (mg/kg) (%) yanide ND 4.97 4.79 96 75-125

_IENT: ROJECT: OHM REMEDIATION SERVICES

MCAS EL TORO/18609/D.O. 70

ETHOD:

METHOD 9010A

ATRIX:

SOIL

17.9 MOISTURE:

ATCH NO.: AMPLE ID: ONTROL NO.: 98H040

18609-963

DATE RECEIVED: 08/11/98

5.97

DATE EXTRACTED: 08/13/98 09:00 DATE ANALYZED: 08/13/98 19:43

H040-05M

ND

CCESSION:

ARAMETER -----yanide

SMPL RSLT SPIKE AMT MS RSLT (mg/kg) (mg/kg)

(mg/kg)

MS % REC

89

QC LIMIT (%)

5.33

75-125

EMAX QUALITY CONTROL DATA DUPLICATE ANALYSIS

OHM REMEDIATION SERVICES LIENT: MCAS EL TORO/18609/D.O. 70 · JECT:

METHOD 9010A

HOD:

% 'X: SOIL 6 STURE: 17.9

3k_CH NO.: SAMPLE ID: DATE RECEIVED: 08/11/98 98H040 18609-963 DATE EXTRACTED: 08/13/98 09:00 H040-05D DATE ANALYZED: 08/13/98 19:42 CONTROL NO.:

ESSION:

אט RPD LIMIT (%) (%) SAMPLE DUP. SAMPLE SAMPLE DUF. 5,.... (%) (%) (mg/kg) (%) (%) - AMETER

Cyanide

CLIENT: PROJECT: OHM REMEDIATION SERVICES MCAS EL TORO/18609/D.O. 70

METHOD:

METHOD 9010A

MATRIX: % MOISTURE:

WATER NA

_______ BATCH NO.:

98H040

SAMPLE ID:

LCS1W/LCD1W

CONTROL NO.:

CNHOO4WL/C

DATE RECEIVED: NA

DATE EXTRACTED: 08/13/98 09:00

DATE ANALYZED: 08/13/98 19:19/19:20

	BLNK RSLT	SPIKE AMT	BS RSLT	BS	SPIKE AMT	BSD RSLT	BSD	RPD	QC LIMIT	RPD LIMIT
PARAMETER	(mg/L)	(mg/L)	(mg/L)	% REC	(mg/L)	(mg/L)	% REC	%	%	%
Cyanide	ND	.185	.202	109	.185	.19	103	6	80-120	20

EMAX QUALITY CONTROL DATA DUPLICATE ANALYSIS

: TENT:

OHM REMEDIATION SERVICES

JECT:

MCAS EL TORO/18609/D.O. 70

(dob:

METHOD 9010A

NOTSTURE:

WATER

NA * 199522224777777777

ATCH NO .: SAMPLE ID: : TROL NO.: 98H040

18609-962 H040-04D

DATE RECEIVED: 08/11/98
DATE EXTRACTED: 08/13/98 09:00

DATE ANALYZED: 08/13/98 19:36

ID_ESSION:

AMETER

SAMPLE (mg/L) DUP. SAMPLE (mg/L)

RPD

RPD LIMIT

ND

(%) 0

(%) 20

ND Cyanide

EMAX QUALITY CONTROL DATA DUPLICATE ANALYSIS

CLIENT:

OHM REMEDIATION SERVICES

PROJECT:

MCAS EL TORO/18609/D.O. 70

METHOD:

METHOD 9045

MATRIX: % MOISTURE:

NA

BATCH NO.:

98H040

18609-963

DATE RECEIVED: 08/11/98
DATE EXTRACTED: NA

SAMPLE ID: CONTROL NO.:

H040-05D

DATE ANALYZED: 08/12/98 15:00

ACCESSION:

Вq

PARAMETER -----

(pH unit) (pH unit)

SAMPLE DUP. SAMPLE

RPD RPD LIMIT (%) (%) 8.97 8.98 0 20

EMAX QUALITY CONTROL DATA DUPLICATE ANALYSIS

CLIENT:

OHM REMEDIATION SERVICES

JJECT:

MCAS EL TORO/18609/D.O. 70

HOD:

METHOD 150.1

۱ 'X:

STURE:

WATER

NA

BATCH NO.: SAMPLE ID: TROL NO.: 98H040

18609-962

DATE RECEIVED: 08/11/98 DATE EXTRACTED: NA

H040-04D

DATE ANALYZED: 08/12/98 14:50

ESSION:

RPD RPD LIMIT DUP. SAMPLE SAMPLE (pH unit) (pH unit) (%) (%) F !AMETER 7.95 0 20 7.98

8005

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			juggydd
			Program
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Appendix H LDC Data Validation Report

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 14, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil/Water

Parameters:

Total Petroleum Hydrocarbons as Gasoline

Validation Level:

NFESC Level C & D

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H064

Sample Identification

18609-967

18609-968

18609-970

18609-972

18609-974**

18609-976

^{**}Indicates sample underwent NFESC Level D review

Introduction

This data review covers 5 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VII. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Sample 18609-967 was identified as a rinsate. No total petroleum hydrocarbons as gasoline contaminants were found in this blank with the following exceptions:

Rinsate ID	Compound	Concentration (mg/L)
18609-967	TPH as gasoline	0.22

MCAS El Toro

Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 98H064

No Sample Data Qualified in this SDG

MCAS El Toro

Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 98H064

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 14, 1998

LDC Report Date:

December 27, 1998

Matrix:

Soil/Water

Parameters:

Total Petroleum Hydrocarbons as Extractables

Validation Level:

NFESC Level C & D

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H064

Sample Identification

18609-967

18609-968

18609-970

18609-972

18609-974**

18609-976

18609-976MS

18609-976MSD

^{**}Indicates sample underwent NFESC Level D review

Introduction

This data review covers 7 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VI. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VII. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Sample 18609-967 was identified as a rinsate. No total petroleum hydrocarbons as extractable contaminants were found in this blank with the following exceptions:

Rinsate ID	Compound	Concentration (mg/L)
18609-967	TPH as diesel	1.91

MCAS El Toro

Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 98H064

No Sample Data Qualified in this SDG

MCAS El Toro

Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 98H064

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 14, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil/Water

Parameters:

Volatiles

Validation Level:

NFESC Level C & D

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H064

Sample Identification

18609-967

18609-967DL

18609-968

18609-969

18609-970

18609-971

18609-972

18609-973

18609-974**

18609-975

18609-976

18609-977

18609-971MS

18609-971MSD

^{**}Indicates sample underwent NFESC Level D review

Introduction

This data review covers 12 soil samples and 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MBLK1W	8/17/98	Methylene chloride	4.51 ug/L	18609-967
MBLK2W	8/19/98	Methylene chloride	2.55 ug/L	18609-967DL

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MBLK1S	8/17/98	Methylene chloride	4.51 ug/Kg	18609-968 18609-969 18609-970 18609-971
MBLK2S	8/19/98	Methylene chloride	2.55 ug/Kg	18609-972 18609-973 18609-975 18609-976

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound TIC (RT in minutes)	Reported Concentration	Modified Final Concentration
18609-967	Methylene chloride	3.53 ug/L	5U ug/L
18609-967DL	Methylene chloride	26.2 ug/L	50U ug/L
18609-968	Methylene chloride	5.4 ug/Kg	5.71U ug/Kg
18609-969	Methylene chloride	4.46 ug/Kg	5.46U ug/Kg
18609-970	Methylene chloride	5.08 ug/Kg	5.69U ug/Kg
18609-971	Methylene chloride	4.4 ug/Kg	5.52U ug/Kg
18609-972	Methylene chloride	3.62 ug/Kg	5.66U ug/Kg
18609-973	Methylene chloride	3 ug/Kg	5.13U ug/Kg
18609-975	Methylene chloride	2.94 ug/Kg	5.77U ug/Kg
18609-976	Methylene chloride	3.78 ug/Kg	5.39U ug/Kg

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
18609-967	2-Butanone Acetone	Sample result exceeded calibration range.	Reported result should be within calibration range.	J J	A

Raw data were not evaluated for the samples reviewed by Level C criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

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XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Samples 18609-967 and 18609-967DL were identified as rinsates. No volatile contaminants were found in this blank with the following exceptions:

Rinsate ID	Compound	Concentration (ug/L)
18609-967	2-Butanone 2-Hexanone Acetone Methyl-tert-butyl ether Methylene chloride	462 176 730 3.68 3.53
18609-967DL	2-Butanone 2-Hexanone Acetone Methylene chloride	491 162 652 26.2

MCAS El Toro Volatiles - Data Qualification Summary - SDG 98H064

SDG	Sample	Compound	Flag	A or P	Reason
98H064	18609-967	2-Butanone Acetone	.t	А	Compound quantitation and CRQLs

MCAS El Toro Volatiles - Laboratory Blank Data Qualification Summary - SDG 98H064

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98H064	18609-967	Methylene chloride	5U ug/L	А
98H064	18609-967DL	Methylene chloride	50U ug/L	A
98H064	18609-968	Methylene chloride	5.71U ug/Kg	А
98H064	18609-969	Methylene chloride	5.46U ug/Kg	, A
98H064	18609-970	Methylene chloride	5.69U ug/Kg	А
98H064	18609-971	Methylene chloride	5.52U ug/Kg	А
98H064	18609-972	Methylene chloride	5.66U ug/Kg	A
98H064	18609-973	Methylene chloride	5.13U ug/Kg	А
98H064	18609-975	Methylene chloride	5.77U ug/Kg	А
98H064	18609-976	Methylene chloride	5.39U ug/Kg	А

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 14, 1998

LDC Report Date:

January 13, 1999

Matrix:

Soil/Water

Parameters:

Semivolatiles

Validation Level:

NFESC Level C & D

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H064

Sample Identification

18609-967

18609-968

18609-970

18609-972

18609-974**

18609-976

18609-970MS

18609-970MSD

^{**}Indicates sample underwent NFESC Level D review

Introduction

This data review covers 7 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270B for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all semivolatile target compounds and system monitoring compounds were greater than or equal to 0.05 as required.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were greater than or equal to 0.05.

V. Blanks

3416E2A.O34

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
18609-967	Nitrobenzene-d5 2-Fluorobiphenyl	28 (32-125) 33 (43-125)	All base neutral compounds	J	A

3

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
18609-970MS/MSD	1,2,4-Trichlorobenzene	-	-	41 (≤30)	J	Α
(All soil samples in	1,4-Dichlorobenzene		-	44 (≤30)	Ĵ	1
SDG 98H064)	2-Chlorophenol	-	-	42 (≤30)	J	
	4-Chloro-3-methylphenol	-	-	42 (≤30)	J	
	4-Nitrophenoi	-	-	38 (≤30)	J	
	Acenaphthene		-	43 (≤30)	J	
	N-Nitroso-di-n-propylamine	•	-	48 (≤30)	J	
	Phenol	-		43 (≤30)	J	

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS2S/LCD2S (18609-968 18609-972 MBLK2S)	Pentachlorophenol 4-Nitrophenol	35 (38-146) -	-	 36 (≤30)	J	А

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Sample 18609-967 was identified as a rinsate. No semivolatile contaminants were found in this blank.

MCAS El Toro Semivolatiles - Data Qualification Summary - SDG 98H064

SDG	Sample	Compound	Flag	A or P	Reason
98H064	18609-967	Bis(2-chloroethyl) ether	J	A	Surrogate spikes (%R)
011004	10000 001	1,3-Dichlorobenzene	ر ا		Carrogate spines (/sr.)
		1.4-Dichlorobenzene			
		1.2-Dichlorobenzene	1		
		i		ı	i
	1	2.2'-Oxybis(1-chloropropane)	1		
		N-Nitroso-di-n-propylamine	,		\
		Hexachloroethane	ا ا		
	1	Nitrobenzene	1	1	
	İ	Bis(2-chloroethoxy)methane	1	į.	1
	1	1.2.4-Trichlorobenzene	J		i
		Naphthalene	J		1
		4-Chloroaniline	j		
	1	Hexachlorobutadiene	J	1	1
		2-Methylnaphthalene	J		
		Hexachlorocyclopentadiene	J		
		2-Chloronaphthalene	J	1	
		2-Nitroaniline	J		
	1	Dimethylphthalate	J	1	
	İ	Acenaphthylene	J		ļ
		2,6-Dinitrotoluene	, i		
		3-Nitroaniline			
		Acenaphthene			
		Dibenzofuran		1	1
		2.4-Dinitrotoluene	1 ,	Į.	
		1	,		
		Diethylphthalate	٦	1	
		4-Chlorophenylphenyl ether	1 ,	l	
		Fluorene	3	Ì	
		4-Nitroaniline	J	l l	
		N-Nitrosodiphenylamine	1		
		4-Bromophenylphenyl ether	J	1	
]	Hexachlorobenzene	J	İ	
		Phenanthrene	J	1	
		Anthracene	J	1	1
		Di-n-butylphthalate	J		J
		Fluoranthene	J		1
	Ì	Pyrene	J	1	
	}	Butylbenzylphthalate	j		
		3.3'-Dichlorobenzidine	J		
	1	Benzo(a)anthracene	J		
	1	Chrysene	J		
		Bis(2-ethylhexyl)phthalate		l	
		Di-n-octylphthalate	ر ا		
		Benzo(b)fluoranthene	j	- {	
		Benzo(k)fluoranthene	j		
	}	1	J		
		Benzo(a)pyrene	J	1	
		Indeno(1.2.3-cd)pyrene	ر		
		Dibenz(a,h)anthracene	J	1	
		Benzo(g.h.i)perylene		ł	
184064	FRANCE 0002	1.2.4-Trichlorobenzene	J	A	Matrix spike/Matrix spik
8H064	18600.070	1.4-Dichlorobenzene	Ĵ	'`	duplicates (RPD)
	18609-970	i i	j		adplicates (i'ii b)
	18600 072	2-Chlorophenol			
	18009-974	4-Chloro-3-methylphenol	J		
	18600-070	4-Nitrophenol	J	1	
		Acenaphthene	J		
		N-Nitroso-di-n-propylamine	J	1	
	1	Phenol	J	ı	1

SDG	Sample	Compound	Flag	AorP	Reason
98H064	18609-968 18609-972	Pentachiorophenol 4-Nitrophenol	J	А	Laboratory control samples (%R)

MCAS El Toro Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 98H064

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 14, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil

Parameters:

Semivolatiles

Validation Level:

NFESC Level C & D

1

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H064

Sample Identification

18609-968

18609-970

18609-972

18609-974**

18609-976

3416E2B.O34

^{**}Indicates sample underwent NFESC Level D review

Introduction

This data review covers 5 soil samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270B using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all semivolatile target compounds and system monitoring compounds were greater than or equal to 0.05 as required.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were greater than or equal to 0.05.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were not performed by the laboratory.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 98H064	All TCL compounds	No LCS analysis associated with these samples.	LCS analysis required.	J	Р

The samples and associated blanks are qualified as estimated (J) due to the lack of associated laboratory control samples, matrix spikes, and matrix spike duplicates.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Compound	Flag	A or P
MBLK2S	Perylene-d12	641800 (138092-552366)	Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenzo(a,h)anthracene	J (all detects) J (all detects) J (all detects)	Þ

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XV. Overall Assessment

The overall assessment of data was acceptable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 98H064	All TCL compounds	Although the surrogates, MS/MSDs and Laboratory control samples were performed for the full scan analysis, they were not performed for the SIM analysis.	QC must be performed for each analysis as required per the QAPP.	J	А

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro Semivolatiles - Data Qualification Summary - SDG 98H064

SDG	Sample	Compound	Flag	A or P	Reason
98H064	18609-968 18609-970 18609-972 18609-974** 18609-976	All TCL compounds	J	Р	Laboratory control samples
98H064	18609-968 18609-970 18609-972 18609-974** 18609-976	All TCL compounds	J	А	Overall assessment of data

MCAS El Toro Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 98H064

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 14, 1998

LDC Report Date:

December 22, 1998

Matrix:

Water

Parameters:

Chlorinated Pesticides & PCBs

Validation Level:

NFESC Level C & D

1

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H064

Sample Identification

18609-967

18609-968

18609-970

18609-972

18609-974**

18609-976

18609-968MS

18609-968MSD

3416E3.O34

^{**}Indicates sample underwent NFESC Level D review.

Introduction

This data review covers 7 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

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Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples on which a Level C review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Retention times (RT) of all compounds in the calibration standards were within QC limits for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples on which a Level C review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than or equal to 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
18609-968MS/MSD (All soil samples in SDG 98H064)	Dieldrin Endrin	28 (32-142)	17 (32-142) 24 (33-144)	-	J	А

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

LCS ID	Compound	%R (Limits)	Associated Samples	Flag	A or P
MBIk1W LCS/LCSD	gamma-BHC	63 (73-125)	All water samples in SDG 98H064	J	A

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on

which an NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

XV. Field Blanks

Sample 18609-967 was identified as a rinsate. No chlorinated pesticide or PCB contaminants were found in this blank.

MCAS El Toro Chlorinated Pesticides & PCBs - Data Qualification Summary - SDG 98H064

SDG	Sample	Compound	Flag	A or P	Reason
98H064	18609-968 18609-970- 18609-972 18609-974**	Dieldrin Endrin	J	A	Matrix spike/Matrix spike duplicates (%R)
98H064	18609-967	gamma-BHC	J	А	Laboratory control sample:

MCAS El Toro Chlorinated Pesticides & PCBs - Laboratory Blank Data Qualification Summary -SDG 98H064

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 14, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil/Water

Parameters:

Metals

Validation Level:

NFESC Level C & D

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H064

Sample Identification

18609-967

18609-968

18609-970

18609-972

18609-974**

18609-976

18609-968MS

18609-968MSD

18609-972MS

18609-972MSD

^{**}Indicates sample underwent NFESC Level D review

Introduction

This data review covers 9 soil samples and one water sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010 and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

1. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met with the following exceptions:

Date	Lab. Reference/ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
8/29/98	ICV	Selenium	88 (90-110)	All samples in SDG 98H064	None	Р

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found above the reporting limit in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
ICB	Barium Lead Potassium Zinc Molybdenum	-1.29 ug/L -4.48 ug/L -1979 ug/L 6.86 ug/L 24.0 ug/L	All soil samples in SDG 98H064
CCB1	Aluminum Barium Chromium Copper Lead Magnesium Manganese Potassium Silver Vanadium	-53.4 ug/L -2.56 ug/L -7.53 ug/L -8.48 ug/L -6.00 ug/L -73.2 ug/L -1.18 ug/L -3207 ug/L -11.8 ug/L -7.80 ug/L	All soil samples in SDG 98H064

Method Blank ID	Analyte	Concentration	Associated Samples
CCB2	Arsenic	4.65 ug/L	All soil samples in SDG 98H064
	Beryllium	0.34 ug/L	
	Potassium	-1012 ug/L	
	Vanadium		
		4.97 ug/L	
	Zinc	5.65 ug/L	
	Molybdenum	22.1 ug/L	
	Aluminum	48.6 ug/L	All pail complex in SDC 08H06
3000	Arsenic		All soil samples in SDG 98H064
	I .	4.97 ug/L	
	Chromium	3.51 ug/L	
	Lead	-5.94 ug/L	
	Sodium	277 ug/L	
	Zinc	6.78 ug/L	
	Molybdenum	19.5 ug/L	
CCB1	Barium	-1.71 ug/L	All soil samples in SDG 98H064
	Chromium	-4.32 ug/L	
	Cobalt	-11.0 ug/L	
	Copper	-7.17 ug/L	
	Lead	-5.07 ug/L	
	Magnesium	-62.7 ug/L	
	Potassium	-3976 ug/L	
	1		
	Silver	-11.8 ug/L	
	Vanadium	-9.03 ug/L	
CCB2	Aluminum	50.7 ug/L	All soil samples in SDG 98H064
OODE	Beryllium	0.23 ug/L	All soil samples in obd soi too
	1 '	· ·	
	Chromium	-5.38 ug/L	· ·
	Copper	-3.27 ug/L	
	Magnesium	-58.4 ug/L	
	Potassium	-1825 ug/L	
	Silver	-8.55 ug/L	
	Sodium	149 ug/L	
	Vanadium	-4.71 ug/L	
	Zinc	3.08 ug/L	
	Molybdenum	9.17 ug/L	
	Antimony	FO 4	All water consider in CDC
СВ	Antimony	-52.4 ug/L	All water samples in SDG
	Barium	-1.26 ug/L	98H064
	Chromium	-4.98 ug/L	1
	Cobalt	-10.0 ug/L	<u> </u>
	Copper	-2.10 ug/L	
	Sodium	-341 ug/L	
	Zinc	-4.01 ug/L	
	Molybdenum	8.69 ug/L	İ
		ug/ -	
CCB1	Antimony	-39.5 ug/L	All water samples in SDG
	Cobalt	-8.20 ug/L	98H064
	Copper	2.47 ug/L	
	Zinc	-4.36 ug/L	
	Molybdenum	7.51 ug/L	
	Copper	1.86 ug/L	All water samples in SDG
CCB2	Molybdenum	16.5 ug/L	98H064

Method Blank ID	Analyte	Concentration	Associated Samples
CCB1	Aluminum Barium Zinc	-51.7 ug/L -1.06 ug/L -4.84 ug/L	All water samples in SDG 98H064
CCB2	Aluminum Barium Sodium	-66.8 ug/L -1.55 ug/L -341 ug/L	All water samples in SDG 98H064
ССВЗ	Potassium Sodium Vanadium	88.3 ug/L -341 ug/L -3.41 ug/L	All water samples in SDG 98H064
CCB	Chromium Copper Potassium Sodium Zinc	-4.84 ug/L -2.10 ug/L -553 ug/L -341 ug/L -4.72 ug/L	All water samples in SDG 98H064

Sample concentrations were compared to concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
18609-972	Arsenic	2.41 mg/Kg	2.41U mg/Kg
18609-974**	Arsenic	2.25 mg/Kg	2.25U mg/Kg
18609-976	Arsenic	2.08 mg/Kg	2.08U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
18609-972MS/MSD	Antimony	46 (80-120)	46 (80-120)		J	Α
(All soil samples in	Barium	-	143 (80-120)		J (all detects)	
SDG 98H064)	Calcium	75 (80-120)	- [J	
	Manganese	73 (80-120)		-	J	

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
18609-972L	Calcium Iron Zinc	11 (≤10) 11 (≤10) 16 (≤10)	All soil samples in SDG 98H064	J (all detects) J (all detects) J (all detects)	А

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

Sample 18609-967 was identified as a rinsate. No metal contaminants were found in this blank.

3416E4.O34

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MCAS El Toro Metals - Data Qualification Summary - SDG 98H064

SDG	Sample	Analyte	Flag	A or P	Reason
98H064	18609-967 18609-968 18609-970 18609-972 18609-974** 18609-976	Selenium	E emote 34004	Р	Calibration (%R)
98H064	1 3009-968 1 8609-97 0 18609-972 1 8509-974* * 1809-976	Antimony Barium Calcium Manganese	J J (all detects) J	А	Matrix spike analysis (%R)
98H064	18609-968 18609-970 18609-972 18609-974** 18609-976	Calcium Iron Zinc	J (all detects) J (all detects) J (all detects)	A	ICP serial dilution (%D)

MCAS El Toro Metals - Laboratory Blank Data Qualification Summary - SDG 98H064

SDG	Sample	Analyte	Modified Final Concentration	A or P
98H064	18609-972	Arsenic	2.41 /dJ mg/Kg	А
98H064	18609-974**	Arsenic	2.25 /7 mg/Kg	А
98H064	18609-976	Arsenic	2.08 /07 mg/Kg	А

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 14, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil/Water

Parameters:

Cyanide

Validation Level:

NFESC Level C & D

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H064

Sample Identification

18609-967

18609-968

18609-970

18609-972

18609-974**

18609-976

18609-976MS

18609-976DUP

^{**}Indicates sample underwent NFESC Level D review

Introduction

This data review covers 7 soil samples and one water sample listed on the cover sheet. The analyses were per EPA SW 846 Method 9010A for Cyanide.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VII.

Samples indicated by a double asterisk on the front cover underwent a NFESC Level D review. A NFESC Level C review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level C criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration were met.

b. Calibration verification

Calibration verification frequency and analysis criteria were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No cyanide contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

b. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Sample Result Verification

All sample result verifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Field Blanks

Sample 18609-967 was identified as a rinsate. No cyanide contaminants were found in this blank.

MCAS El Toro Cyanide - Data Qualification Summary - SDG 98H064

No Sample Data Qualified in this SDG

MCAS El Toro Cyanide - Laboratory Blank Data Qualification Summary - SDG 98H064

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

January 13, 1999

Matrix:

Soil/Water

Parameters:

Total Petroleum Hydrocarbons as Gasoline

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-959

18609-960

18609-961

18609-962

18609-963

Introduction

This data review covers one soil sample and 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Gasoline.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as gasoline contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Sample 18609-959 was identified as a trip blank. No total petroleum hydrocarbons as gasoline contaminants were found in this blank.

Sample 18609-961 was identified as a rinsate. No total petroleum hydrocarbons as gasoline contaminants were found in this blank.

MCAS El Toro

Total Petroleum Hydrocarbons as Gasoline - Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

MCAS El Toro

Total Petroleum Hydrocarbons as Gasoline - Laboratory Blank Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 22, 1998

Matrix:

Soil/Water

Parameters:

Total Petroleum Hydrocarbons as Extractables

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-960

18609-961

18609-962

18609-963

Introduction

This data review covers one soil sample and 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8015 modified for Total Petroleum Hydrocarbons (TPH) as Extractables.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

Initial calibration of compounds was performed as required by the method.

The percent relative standard deviations (%RSD) of calibration factors for compounds were less than or equal to 20.0%.

b. Calibration Verification

Calibration verification was performed at required frequencies. The percent differences (%D) of amounts in continuing standard mixtures were within the 15.0% QC limits.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No total petroleum hydrocarbons as extractable contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Surrogate Recovery

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

b. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

c. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Target Compound Identification

Raw data were not reviewed for this SDG.

VI. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

VII. System Performance

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Field Blanks

Sample 18609-961 was identified as a rinsate. No total petroleum hydrocarbons as extractable contaminants were found in this blank.

MCAS El Toro

Total Petroleum Hydrocarbons as Extractables - Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG.

MCAS El Toro

Total Petroleum Hydrocarbons as Extractables - Laboratory Blank Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 21, 1998

Matrix:

Water

Parameters:

Volatiles

Validation Level:

NFESC Level C & D

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-959

18609-960

18609-961

18609-962

18609-963

18609-963DL

^{**}Indicates sample underwent NFESC Level D review

Introduction

This data review covers 2 soil samples and 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260A for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all volatile target compounds and system monitoring compounds were within validation criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 25.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were within validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MBLK1S	8/12/98	Methylene chloride	2.23 ug/Kg	All soil samples in SDG 98H040
MBLK1W	8/12/98	Methylene chloride	2.23 ug/L	All water samples in SDG 98H040

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Compound Reported TIC (RT in minutes) Concentration		Modified Final Concentration
18609-959	Methylene chloride	1.81 ug/L	5U ug/L
18609-960	Methylene chloride	1.93 ug/L	5U ug/L
18609-961	Methylene chloride	3.71 ug/L	5U ug/L
18609-962	Methylene chloride	1.95 ug/L	5U ug/L

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Compound	Flag	A or P
18609-963	1,4-Difluorobenzene Chlorobenzene-d5 1,2-Dichlorobenzene-d4	230302 (244493-977970) 156334 (195954-783814) 126295 (206959-827834)	1.1.1-Trichloroethane Carbon tetrachloride Bromodichloromethane 1.2-Dichloropropane cis-1,3-Dichloropropene Trichloroethene Dibromochloromethane 1,1,2-Trichloroethane Benzene trans-1,3-Dichloropropene Vinyl acetate 2-Chloroethylvinyl ether		А
18609-963DL	1,2-Dichlorobenzene-d4	188377 (206959-827834)	1.1,2,2-Tetrachloroethane	J	А

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Sample 18609-959 was identified as a trip blank. No volatile contaminants were found in this blank with the following exceptions:

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil/Water

Parameters:

Semivolatiles

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-960

18609-961

18609-961RE

18609-962

18609-963

18609-963RE

Introduction

This data review covers 2 soil samples and 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270B for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all semivolatile target compounds and system monitoring compounds were greater than or equal to 0.05 as required.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
8/17/98	Pentachlorophenol Di-n-octylphthalate	20.30 20.09	18609-961	J	Р

All of the continuing calibration RRF values were greater than or equal to 0.05.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All

surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Sample Surrogate		%R (Limits) Compound		A or P
18609-961	Nitrobenzene-d5 2-Fluorobiphenyl	25 (32-125) 39 (43-125)	All base neutral compounds	J	А
18609-961RE	Nitrobenzene-d5 2-Fluorobiphenyl	25 (32-125) 37 (43-125)	All base neutral compounds	J	A

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS1W/LCD1W	1,2,4-Trichlorobenzene	-	38 (44-142)	22 (≤20)	J	A
(All water samples	2.4-Dinitrotoluene	-		23 (≤20)	J	
in SDG 98H040)	4-Chioro-3-methylphenol	-	_	21 (≤20)	J	
	4-Nitrophenol			32 (≤20)	J	1
	Acenaphthene	-	-	21 (≤20)	J	1
	N-Nitroso-di-n-propylamine	-	-	22 (≤20)	J	1
	Pentachlorophenol	-	-	29 (≤20)	Ų	

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Compound	Flag	A or P
18609-963	1,4-Dichlorobenzene-d4 Naphthalene-d8 Acenaphthene-d10 Phenanthrene-d10 Chrysene-d12 Perylene-d12	9179 (18562-74248) 35351 (72766-291064) 23046 (45577-182308) 39771 (79421-317684) 21241 (68024-272094) 24066 (42905-171620)	All TCL compounds	J	А
18609-963RE	Chrysene-d12	95811 (100009-400036)	Pyrene Butylbenzylphthalate 3,3'-Dichlorobenzidine Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate		A

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

The system performance was within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Samples 18609-967 and 18609-961RE were identified as rinsates. No semivolatile contaminants were found in these blanks.

MCAS El Toro Semivolatiles - Data Qualification Summary - SDG 98H040

SDG	Sample	Compound	Flag	A or P	Reason
98H040	18609-961	Pentachlorophenol	j	P	Continuing calibration
00/10-70	10000 001	Di-n-octylphthalate	Ĵ	1 '	(%D)
	}				
98H040	18609-961	Bis(2-chloroethyl) ether	J	A	Surrogate spikes (%R)
	18609-961RE	1,3-Dichlorobenzene	J		1
	i	1,4-Dichlorobenzene	J		
		1,2-Dichlorobenzene	J		
		2,2'-Oxybis(1-chloropropane)	J		}
		N-Nitroso-di-n-propylamine	į į		1
		Hexachloroethane	J		
		Nitrobenzene	J	- {	\
		Bis(2-chloroethoxy)methane	J		
		1,2,4-Trichlorobenzene	ز		
		Naphthalene	j	· I	1
		4-Chloroaniline	J		1
		Hexachlorobutadiene	j		
		2-Methylnaphthalene	J	-	
		Hexachlorocyclopentadiene	J	1	
		2-Chloronaphthalene	J		1
		2-Nitroaniline	J	ŀ	1
	Ĭ	Dimethylphthalate	j		1
		Acenaphthylene	j		1
		2,6-Dinitrotoluene	1		1
		3-Nitroaniline	l j	1	
	-	Acenaphthene	Ĭ,	İ	
		Dibenzofuran	1 .		
		2,4-Dinitrotoluene	J	1	
		Diethylphthalate	.1		
		4-Chlorophenylphenyl ether	, i		
		Fluorene	J	1	
		4-Nitroaniline	ن ا		
		N-Nitrosodiphenylamine	j		
		4-Bromophenylphenyl ether	j	ı	
		Hexachlorobenzene	j		
		Phenanthrene	J J		
		Anthracene	, j	ļ	
		Di-n-butylphthalate	ر ا		
		Fluoranthene			
		Pyrene	1 1	i	
		Butylbenzylphthalate	Ĵ		
		3,3'-Dichlorobenzidine	1 .1		
		Benzo(a)anthracene]		
		Chrysene	l ĭ		
		Bis(2-ethylhexyl)phthalate	1 .i		
		Di-n-octylphthalate	1 .i		
		Benzo(b)fluoranthene	, i		}
		Benzo(k)fluoranthene			
		Benzo(a)pyrene	Ĭ		
		Indeno(1,2,3-cd)pyrene	Ĭ		
		Dibenz(a,h)anthracene	1		
		•	J		
	1	Benzo(g,h,i)perylene	١		I

SDG	Sample	Compound	Flag	A or P	Reason
98H040	18609-960 18609-961 18609-961RE 18609-962	1,2,4-Trichlorobenzene 2,4-Dinitrotoluene 4-Chloro-3-methylphenol 4-Nitrophenol Acenaphthene N-Nitroso-di-n-propylamine Pentachlorophenol		A	Laboratory control samples (%R) (RPD)
98H040	18609-963	All TCL compounds	J	А	Internal standards (area)
98H040	18609-963RE	Pyrene Butylbenzylphthalate 3,3'-Dichlorobenzidine Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate	J	A	Internal standards (area)

MCAS El Toro Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil

Parameters:

Semivolatiles

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-963

Introduction

This data review covers one soil sample samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270B using Selected Ion Monitoring (SIM) for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 30.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

Average relative response factors (RRF) for all semivolatile target compounds and system monitoring compounds were greater than or equal to 0.05 as required.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

All of the continuing calibration percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all calibration check compounds and less than or equal to 50.0% for all other compounds.

All of the continuing calibration RRF values were greater than or equal to 0.05.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were not performed by the laboratory.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 98H040	All TCL compounds	No LCS analysis associated with these samples.	LCS analysis required.	J	P

The samples and associated blanks are qualified as estimated (J) due to the lack of associated laboratory control samples, matrix spikes, and matrix spike duplicates.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

XIV. System Performance

Raw data were not reviewed for this SDG.

XV. Overall Assessment

The overall assessment of data was acceptable with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
All samples in SDG 98H040	All TCL compounds	Although the surrogates, MS/MSDs and Laboratory control samples were performed for the full scan analysis, they were not performed for the SIM analysis.	QC must be performed for each analysis as required per the QAPP.	J	A

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro Semivolatiles - Data Qualification Summary - SDG 98H040

SDG	Sample	Compound	Flag	A or P	Reason
98H040	18609-963	All TCL compounds	J	Р	Laboratory control samples
98H040	18609-963	All TCL compounds	J	А	Overall assessment of data

MCAS El Toro Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 19, 1998

Matrix:

Soil/Water

Parameters:

Chlorinated Pesticides & PCBs

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-960

18609-961

18609-962

18609-963

Introduction

This data review covers one soil sample and 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081 for Chlorinated Pesticides and PCBs.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

The individual 4,4'-DDT and Endrin breakdowns were less than or equal to 20.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide or PCB contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
18609-963	Not specified	Decachlorobiphenyl Tetrachloro-m-xylene Decachlorobiphenyl	0 (25-143) 0 (35-135) 15 (25-143)	All TCL compounds	J (all detects) R (all non-detects)	А

3

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
MBik1W LCS/LCSD (All water samples in SDG 98H040)	gamma-BHC	63 (73-125)	-	-	J	А

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which an NFESC Level D review was performed. Raw data were not evaluated for the samples reviewed by Level C criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

XV. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro Chlorinated Pesticides & PCBs - Data Qualification Summary - SDG 98H040

SDG	Sample	Compound	Flag	A or P	Reason
98H040	18609-963	All TCL compounds	J (all detects) R (all non-detects)	А	Surrogate spikes (%R)
98H040	18609-960 18609-961 18609-962	gamma-BHC	J	A	Laboratory control samples (%R)

MCAS El Toro Chlorinated Pesticides & PCBs - Laboratory Blank Data Qualification Summary -SDG 98H040

No Sample Data Qualified in this SDG

6

3416C3.OH3

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil/Water

Parameters:

Metals

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-960

18609-961

18609-962

18609-963

18609-963MS

18609-963MSD

Introduction

This data review covers 3 soil samples and 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010 and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Molybdenum, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

===

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found above the reporting limit in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
ICB	Barium Beryllium Calcium Chromium Cobalt Copper Lead Manganese Vanadium Zinc Molybdenum	1.52 ug/L 1.29 ug/L 51.5 ug/L 6.74 ug/L 6.83 ug/L 2.31 ug/L -3.80 ug/L 2.27 ug/L 8.00 ug/L 7.92 ug/L 57.7 ug/L	All samples in SDG 98H040
CCB1	Beryllium Copper Lead Potassium Selenium Thallium Molybdenum	0.360 ug/L4.14 ug/L -1.79 ug/L -2162 ug/L 4.03 ug/L 4.34 ug/L 25.0 ug/L	All samples in SDG 98H040
CCB2	Beryllium Copper Lead Potassium Selenium Zinc Molybdenum	0.420 ug/L -3.55 ug/L -1.20 ug/L -2479 ug/L 3.48 ug/L 3.39 ug/L 37.3 ug/L	All samples in SDG 98H040

Method Blank ID	Analyte	Concentration	Associated Samples
ССВЗ	Arsenic Beryllium Lead Potassium Zinc Molybdenum	-2.86 ug/L 0.430 ug/L -3.21 ug/L -1760 ug/L 5.22 ug/L 34.1 ug/L	All samples in SDG 98H040
CCB1	Beryllium Calcium Copper Lead Potassium Selenium Zinc Molybdenum	0.350 ug/L 70.0 ug/L -7.37 ug/L 1.07 ug/L -2448 ug/L 4.72 ug/L 6.81 ug/L 35.7 ug/L	All samples in SDG 98H040
CCB2	Chromium Cobaft Manganese Potassium Vanadium Zinc Molybdenum	5.30 ug/L 8.83 ug/L 1.15 ug/L -592 ug/L 7.06 ug/L 7.53 ug/L 42.2 ug/L	All samples in SDG 98H040
CCB3	Lead Selenium Thailium	-3.63 ug/L 3.05 ug/L 10.2 ug/L	All samples in SDG 98H040
CCB1	Lead Selenium Thallium	-1.15 ug/L 2.69 ug/L 7.06 ug/L	All samples in SDG 98H040

Sample concentrations were compared to concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
18609-961	Zinc	21.6 ug/L	21.6U ug/L
18609-963	Beryllium Cobalt Selenium Molybdenum	0.261 mg/Kg 4.79 mg/Kg 0.655 mg/Kg 6.58 mg/Kg	0.261U mg/Kg 4.79U mg/Kg 0.655U mg/Kg 6.58U mg/Kg

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
18609-963MS/MSD	Alurninum	-	-	22 (≤20)	J	А
(All soil samples in	Antimony	57 (80-120)	54 (80-120)	- 1	J	
SDG 98H040)	Copper	-	-	66 (≤20)	J	
,	Iron	-	-	27 (≤20)	J	
	Molybdenum	.64 (80-120)	130 (80-120)	27 (≤20)	J	

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met with the following exceptions:

Diluted Sample	Analyte	%D (Limits)	Associated Samples	Flag	A or P
18609-963L	Calcium Iron Nickel	12 (≤10) 11 (≤10) 12 (≤10)	All soil samples in SDG 98H040	J (all detects) J (all detects) J (all detects)	A

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro Metals - Data Qualification Summary - SDG 98H040

SDG	Sample	Analyte	Flag	A or P	Reason
98H040	18609-963	Aluminum Antimony Copper Iron Molybdenum		А	Matrix spike analysis (%R) (RPD)
98H040	18609-963	Calcium Iron Nickel	J (all detects) J (all detects) J (all detects)	А	ICP serial dilution (%D)

MCAS El Toro Metals - Laboratory Blank Data Qualification Summary - SDG 98H040

SDG	Sample	Analyte	Modified Final Concentration	A or P
98H040	18609-961	Zinc	21.6U ug/L	Α
98H040	18609-963	Beryllium Cobalt Selenium Molybdenum	0.261U mg/Kg 4.79U mg/Kg 0.655U mg/Kg 6.58U mg/Kg	А

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil

Parameters:

Metals

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-963

The sample in this SDG underwent STLC extraction.

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010 for Metals. The metals analyzed were Cadmium, Copper, and Nickel.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found above the reporting limit in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Concentration	Associated Samples
ICB	Copper	-2.53 ug/L	All samples in SDG 98H040
CCB1	Copper	-3.95 ug/L	All samples in SDG 98H040
CCB2	Copper	-5.37 ug/L	All samples in SDG 98H040
ссвз	Copper	-3.38 ug/L	All samples in SDG 98H040
CCB1	Copper	-3.95 ug/L	All samples in SDG 98H040
CCB2	Copper	-4.52 ug/L	All samples in SDG 98H040

Sample concentrations were compared to concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks.

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate sample analyses specified for the samples in this SDG, and therefore duplicate sample analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Not required by the method.

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

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MCAS El Toro Metals - Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

MCAS El Toro Metals - Laboratory Blank Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 21, 1998

Matrix:

Soil

Parameters:

Cadmium

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-963

The sample in this SDG underwent TCLP extraction.

Introduction

This data review covers one soil sample listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 6010 for Cadmium.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found above the reporting limit in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Not required by the method.

XI. Sample Result Verification

Raw data were not reviewed for this SDG.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

MCAS El Toro Cadmium - Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

MCAS El Toro Cadmium - Laboratory Blank Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

MCAS El Toro

Collection Date:

August 11, 1998

LDC Report Date:

December 23, 1998

Matrix:

Soil/Water

Parameters:

Cyanide

Validation Level:

NFESC Level C

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 98H040

Sample Identification

18609-960

18609-961

18609-962

18609-963

18609-962DUP

18609-963MS

18609-963DUP

Introduction

This data review covers 3 soil samples and 4 water samples listed on the cover sheet. The analyses were per EPA SW 846 Method 9010A for Cyanide.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section VII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration were met.

b. Calibration verification

Calibration verification frequency and analysis criteria were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No cyanide contaminants were found in the method blanks.

IV. Accuracy and Precision Data

a. Matrix Spike/(Matrix Spike) Duplicates

Matrix spike (MS) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Relative percent differences (RPD) were within QC limits.

b. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

V. Sample Result Verification

Raw data were not reviewed for this SDG.

VI. Overall Assessment of Data

Data flags are summarized at the end of this report.

VII. Field Duplicates

No field duplicates were identified in this SDG.

VIII. Field Blanks

Sample 18609-961 was identified as a rinsate. No cyanide contaminants were found in this blank.

MCAS El Toro Cyanide - Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

MCAS El Toro Cyanide - Laboratory Blank Data Qualification Summary - SDG 98H040

No Sample Data Qualified in this SDG

Trip Blank ID	Compound	Concentration (ug/L)	
18609-959	Methylene chloride	1.81	

Sample 18609-961 was identified as a rinsate. No volatile contaminants were found in this blank with the following exceptions:

Rinsate ID	Compound	Concentration (ug/L)
18609-961	Bromodichloromethane Chloroform Dibromochloromethane	6.36 10.1 3.71

MCAS El Toro Volatiles - Data Qualification Summary - SDG 98H040

SDG	Sample	Compound	Flag	A or P	Reason
98H040	18609-963	1,1,1-Trichloroethane Carbon tetrachloride Bromodichloromethane 1,2-Dichloropropane cis-1,3-Dichloropropene Trichloroethene Dibromochloromethane 1,1,2-Trichloroethane Benzene trans-1,3-Dichloropropene Vinyl acetate 2-Chloroethylvinyl ether		A	Internal standards (area)
98H040	18609-963DL	1,1,2,2-Tetrachloroethane	J	А	Internal standards (area)

MCAS El Toro Volatiles - Laboratory Blank Data Qualification Summary - SDG 98H040

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98H040	18609-959	Methylene chloride	5U ug/L	А
98H040	18609-960	Methylene chloride	5U ug/L	А
98H040	18609-961	Methylene chloride	5U ug/L	А
98H040	18609-962	Methylene chloride	5U ug/L	А

Appendix I Tentative Reuse Parcel Location of TAA 658



